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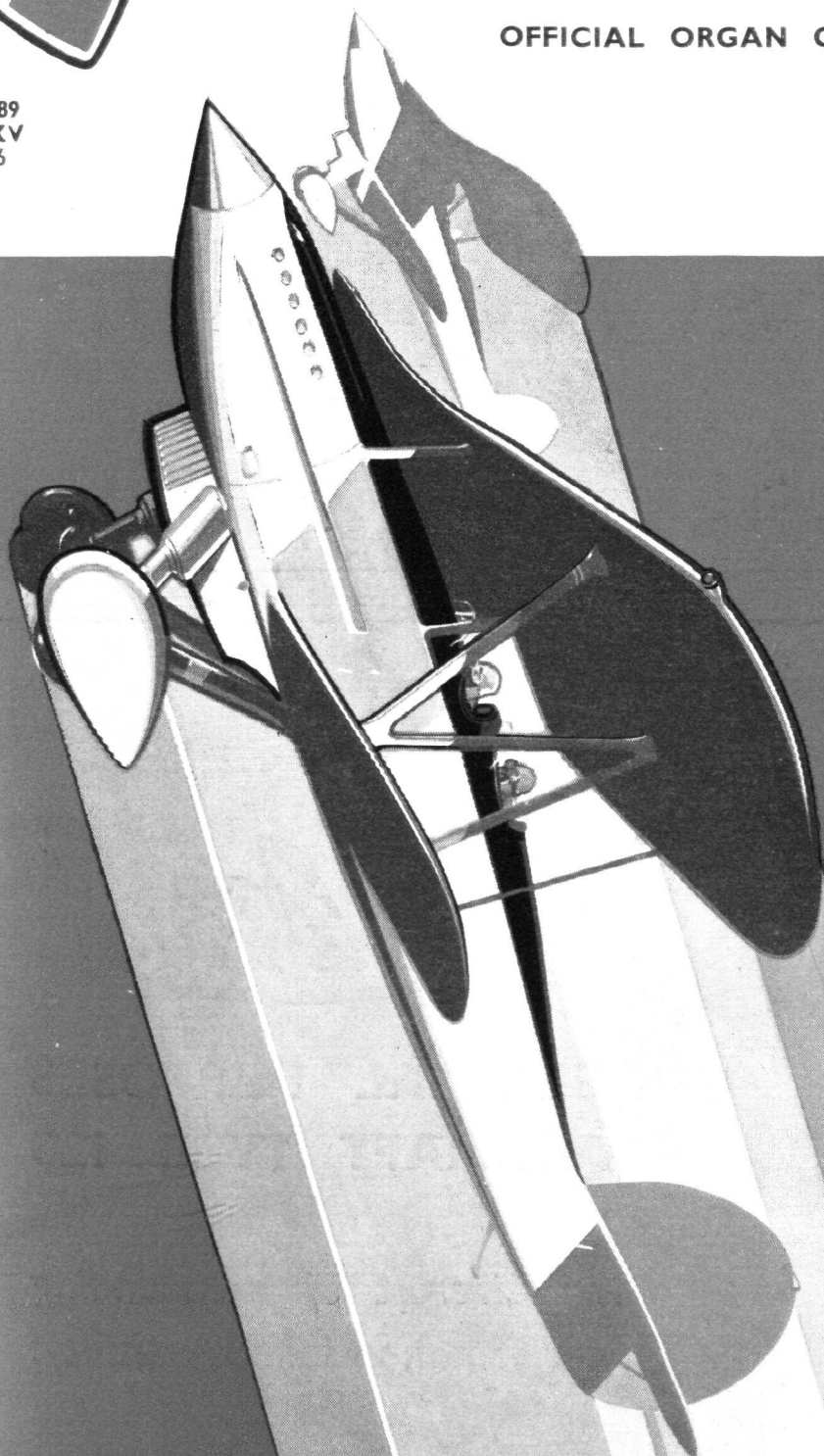
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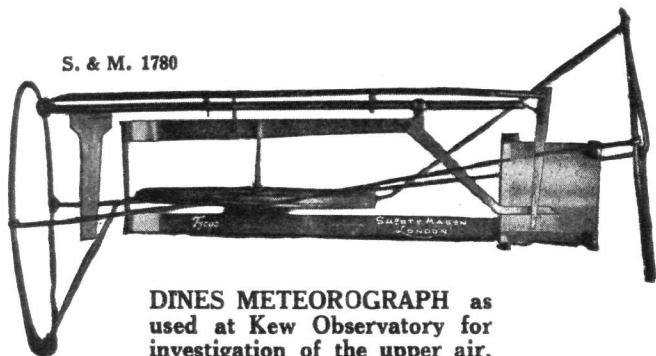
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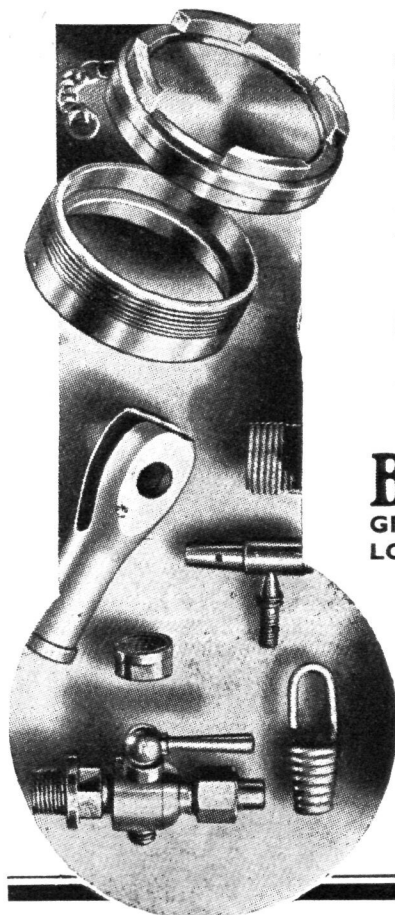
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## EDITORIAL COMMENT



APPETITE comes from eating, says an old proverb, and the commercial community of India, having nibbled at the benefits of air mails, are growing voracious. The Associated Chambers of Commerce of India have received from one of the constituent Chambers a proposal that "a material reduction of the air mail charges for these documents (*i.e.*, all commercial documents such as bills of lading, manifests, etc.) would be followed by a tremendous increase in the weight of mails carried, and consequently in the earnings of the service; that the Government of India might, if persuaded of the importance of the suggestion, move the Postmaster-General in London to take joint action with them in the matter; and that the questions (a) of removing the present inequality between the rates from India to the United Kingdom and the United Kingdom to India and (b) of discontinuing the existing surcharge for carriage of mails in India by air might be pressed equally strongly in respect of commercial documents." This proposal was, of course, circulated to the various Chambers of Commerce, of which the Calcutta Chamber is the most important. This Chamber extended its support to the proposals, but expressed doubts as to whether these particular requests would have much chance of meeting with favourable consideration. The Calcutta Chamber added that, while they had not been able to ascertain the extent to which the carrying capacity of the aeroplanes was at present utilised, there was just a possibility that if it were agreed to make these concessions in respect of bulky parcels, this might result in the shutting out of more important legitimate correspondence. Such a report by the Calcutta Chamber is not likely to result in the Government of India granting the desired concessions, and so for the present it seems likely that the commercial documents will continue to travel by sea.

### India and Air Mails

The remarkable point about this discussion is the attitude of the business men of India towards air mails. In the early days they seemed rather

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## DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list :—

1933.  
Sept. 9. Close of Model Engineer Exhibition, R.I. Horticultural Hall, Westminster.  
Sept. 10. Close of British Week Exhibition, Helsingfors, Finland.  
Sept. 16. Bristol and Wessex Ae.C. Garden Party.  
Sept. 17-24. " la Bienvenue Aerienne " at Rheims.  
Sept. 24. " Air Survey Work." Lecture by Maj. H. Hemming, at Wills Hall, Bristol.  
Sept. 29. Stage and Screen Ae.C. Gymkhana and Theatrical Garden Party, Hatfield.  
Oct. 7-8. B.G.A. Gliding and Soaring Competition.  
Dec. 15. Close of entries for International Touring Competition (1934), Poland.  
Dec. 18-24. International Rally at Cairo and Meeting of the F.A.I.  
1934.  
June 1. Entries close at 12 noon for London-Melbourne Race.  
July 3-9. 4th International Congress for Applied Mechanics, Cambridge.



apathetic about whether air mails would be worth while. Now they are not satisfied with sending their first-class mail matter by air, but they want to send their bulky commercial documents likewise. They are contemplating the possibility of cramming the aeroplane to overflowing, with a danger that first-class matter might be left behind. This frame of mind holds out a glowing prospect for the future.

It does seem that the abolition of the additional 2d. or two annas surcharge for carrying a letter on by air beyond Karachi to some other place in India is very desirable. It does not seem to be realised by correspondents in this country that an extra 2d. will take their letters on from Karachi to (say) Madras by air, or perhaps they object to the irritation of the extra charge. At any rate, it will be a great stimulus when the Government of India can see their way to abolish this extra charge, at least so far as first-class matter is concerned.

Meantime, we read that the prospects of commercial flying in India are considered so brilliant that the newly-formed Indian National Airways, Ltd., of which our old friend F. P. Raynham is a director, are considering the founding of an aeronautical college, probably at Delhi, to give training beyond what can be given in the various aero clubs of India. As it is a considered policy that Indians are to play a large part in future commercial flying in India, not only as pilots but as ground engineers and as directors of companies, such a college ought to be able to do a very useful work.

❖ ❖ ❖ ❖

An interesting military exercise has just been carried out on Salisbury Plain. A small force without aircraft, but helped by an Air Defence Brigade, was opposed by an air force. The Army authorities

**Aircraft  
and the  
Army**

have been endeavouring to learn some lessons from the exercise. One correspondent reports that when cavalry move along each side of the road close under the hedges they are not easily spotted from the air. The same correspondent says that motor transport was also difficult for the aircraft to spot so long as it moved swiftly with variable gaps between the vehicles. Marching infantry, on the other hand, were easy to spot and to bomb. The troops when in bivouac used petrol cookers, which showed no light to the sky and no smoke. On the march the infantry seemed to be at the mercy of the enemy machines, which indulged in low bombing, but another correspondent says that had these troops had fighter aircraft, no low bombing by the enemy would have been attempted. This supports the view FLIGHT has always held, that the Army ought to have fighters allocated to its own use. The only existing fighters belong to Air Defence of Great Britain and to the Fleet Air Arm, neither of which will be able to lend any of them to the Army when the emergency comes. The needs of the three Services as regards aircraft are quite separate, and each Service requires to have its own complement complete before war has broken out. Without fighters, our Army might be blinded by the enemy before it had been able to show its mettle.

❖ ❖ ❖ ❖

In this issue of FLIGHT we publish an article by Mr. W. O. Manning which should be read carefully

by all who are interested in the future growth of civil aviation, and more particularly that branch of it which is usually referred to as Private Flying. The article is by no means of a technical nature, and the least technically-minded of our readers will be able to follow Mr. Manning's arguments without any difficulty. When Mr. Manning sent us the article some time ago (we have not been able to publish it until now due to lack of space) he had given it no title, saying that he would leave the choice of a suitable title to us. We publish the article under the title "Airworthiness and Common Sense," because the whole tone of the article is in effect a plea for the application of a little common sense in drawing up the regulations which are intended to ensure the safety of those who fly and of those on the ground below.

There is one point to which Mr. Manning does not call attention, and which has always appeared to us a very important one. An analysis of accidents indicates that by far the largest percentage is due to the "human element." That percentage may vary from 60 to 75 per cent. or more, in different countries and at different times, but at any rate it is considerably more than 50 per cent. always. That being so, we are legislating for considerably less than one-half of the total risk, the other 60 or 75 per cent. being quite beyond control by design methods, load factors, inspection and so forth.

In his article Mr. Manning does not deal in detail with the new load factors which must be applied to all new civil aircraft. He merely points out that one result will be heavier machines, and he makes the very telling point that those in authority have given no reason for the increase. So far as we are aware, there has been but a single type of aircraft which has been suspected of having broken in the air as a result of structural weakness under certain conditions. That would appear to be a very slim excuse for imposing higher factors on all machines built henceforth, whether they have any resemblance to that machine or not.

But logic does not appear to be the strong suit of those who draw up the airworthiness regulations.

For example, in Design Leaflet B.6, which deals with the structural and strength requirements of flying controls, the paragraph (3 (ii)), which relates to the "Pilots Opposed Case (Dual Control)," reads as follows: "Where dual control is installed, the loads given in each of these conditions (various loads on control stick and rudder bar in pull and push and in sideways loading) must be considered as being applied by both pilots simultaneously in opposite senses." The case represents, of course, the instructor and pupil fighting for control of the machine. To the ordinary reader this phrasing conveys the impression that the loads for which the controls must be designed are double those which apply ordinarily. Yet this can hardly be the intention. The loads themselves appear ridiculously large: for instance, a pull or push on the top of the control column of 150 lb. and a side load of 75 lb. It would require a very strong man to apply a side load of 75 lb. to the top of the control column unless he could get his elbow wedged against some part of the machine. But the ridiculous part of this whole business is that these loads are demanded in the lightest of light planes no less than in machines of more than 11,000 lb. loaded weight.



MINUS ITS "MOULDY" : A Blackburn "Baffin" (Bristol "Pegasus" engine) torpedo bomber undergoing tests.  
(FLIGHT Photo.)

## DEATH OF THE MARCHESE DE PINEDO, A.F.C. FATAL CRASH IN NEW YORK

**I**T is with the deepest regret that we learn that the Marchese de Pinedo, the famous Italian air pilot, was killed on Saturday, September 2, when his Bellanca monoplane, with which he had hoped to break the long-distance record by flying from New York to Baghdad, caught fire as he was attempting to take off from the Floyd Bennett Field. Accounts state that the Bellanca was loaded with 1,000 gallons of petrol, and that, as the Marchese raced it along the runway, experienced spectators realised that it could not take off in time. It swerved off the runway on to soft ground, and finally crashed into a paling. Some accounts say that the Marchese turned it into the paling to avoid killing some of the crowd. The machine at once caught fire, and though the pilot managed to get out of the machine he was immediately overcome by the flames. It was a tragic end to a really great flying career.

The Marchese de Pinedo came of a noble Neapolitan family, and was born in 1890. He first entered the Italian Navy, but transferred to the air service in 1917. We can well remember the general surprise created in early 1925 when it was announced that he intended to fly to Australia in a comparatively small flying boat.

The Marchese held the rank of Major, and was chief staff officer in the military flying corps when he set off from Sesto Calende on April 21, 1925. His craft was a Savoia S.16 ter, with a Lorraine Dietrich 450-h.p. engine. He was accompanied by a mechanic, Ernesto Campanelli, who was able to pilot the machine on occasions. Flying eastward, they crossed the desert from the Mediterranean to Baghdad, but the Marchese argued that it was safer to fly a boat over land than a landplane over water. For landing on *terra firma* he even seemed to think the flat bottom of his Savoia preferable to the wheels and tail skid of an ordinary landplane. The Persian shores of the Gulf do not, we believe, provide many satisfactory harbours for seaplanes, but the Marchese arrived safely at Karachi on May 5. He followed the west coast of India to Bombay, and then boldly struck overland. He crossed 600 miles of the Indian peninsula, and reached the Bay of Bengal at Cocanada. Then he flew to Calcutta before undertaking the difficult section down the Burmese peninsula to Singapore. Incidentally it may be mentioned that in May the Indian rivers are shrunk to the merest trickle of water in a sandy bed, so that there was no help to be got from them if the Lorraine had failed on the way to Cocanada.

Bad weather was met in the Bay of Bengal, but the Marchese pushed on and duly reached Australia, arriving at Broome on May 31. He was much amused when a medical officer reproved him for landing in a dinghy without gaining permission under the quarantine regulations, but the Marchese promised to obey them "next time." He flew right round the Australian coast, surviving the dreaded Great Australian Bight, and made a stay of five weeks at Melbourne.

On leaving Australia, the Marchese flew along a route not previously covered by the wings of an aeroplane to Japan. He touched at New Guinea, Manila, Shanghai, and reached the Japanese naval seaplane base at Kasumigaura on September 26. At Tokyo he spent three weeks and installed a new engine in his seaplane.

On October 17 he set off on his return journey, flying via Hong Kong to French Indo-China, Rangoon, and Calcutta. This time he followed the course of the Ganges and Jumna rivers (which in October would be fairly full of water) to Delhi, and so home by the route of his outward journey. He reached Rome on November 7 after having flown some 35,000 miles. He received a great reception, and many honours were conferred on him. He was promoted to Lieut.-Colonel.

The second great flight was made in 1927. For that he selected a twin-hull Savoia S.55 boat with two Isotta Fraschini 500-h.p. engines. He was accompanied by the late Capt. Del Prete as second pilot and by a mechanic named Zacchetti. They left Rome on February 8 and flew down to Senegal and Cape Verde island. On February 19 they started off across the Atlantic and reached the coast of Brazil, but finding a storm raging there, they returned to Fernando Noronha and landed on February 22. Afterwards they went on to Rio de Janeiro and Buenos Ayres, where new engines were installed. Then they flew through the central parts of South America to Guiana, Havana, and New Orleans. At Roosevelt

Dam, Texas, the *Santa Maria*, as the boat was named, was set on fire while it was being re-fuelled, and was destroyed. The accident was due to a boy lighting a cigarette. The Marchese was not on board, and no one was injured. Gen. Balbo immediately had another boat shipped to New York, whither the Marchese and his crew were flown in U.S.A. army aeroplanes.



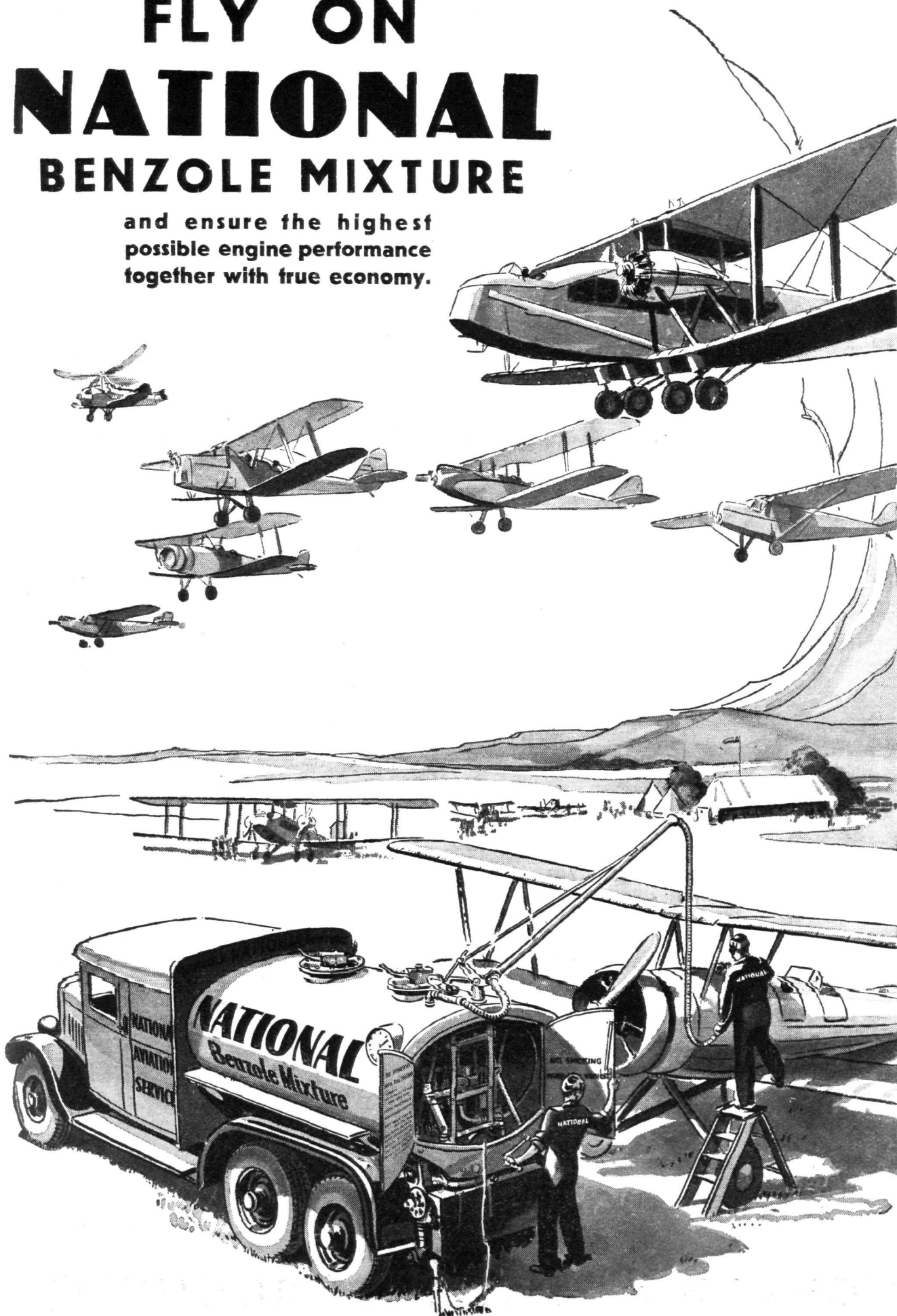
They started the return journey on May 11, intending to complete the circuit of the Atlantic, and flew up to Newfoundland. Thence they made for the Azores, but met head winds and ran out of petrol some 200 miles away from the island. A cutter took them in tow, and then handed the boat over to a steamer. They were afloat several days, and the wing-tips were damaged by waves. This damage was repaired on arrival at Horta. On starting off again, the Marchese conscientiously flew back to the spot where he had been forced down. The *Santa Maria 2* reached Lisbon on June 11, and Ostia on the 16th. This flight had covered some 2,500 miles. The Marchese met with a rapturous welcome, and became the national hero of Italy, much as Col. Lindbergh had become the hero of America. The present writer can well remember the great reception de Pinedo received when he landed the *Santa Maria* on the lagoon at Venice to witness the Schneider contest of 1927. On the night before the contest a great open air show of films and slides of his flights was shown in the Piazza. That year the Air Force Cross was conferred on him by King George.

In June, 1929, the Marchese commanded a flight of 35 seaplanes which toured the Mediterranean and visited Constantinople. Later he was appointed Italian Air Attaché at Buenos Ayres. The spirit of adventure did not die within him, and he wished to win for Italy the long-distance record. Tragedy has intervened, and the name of de Pinedo will go down to history as that of a great Italian pilot who gave his life in a great endeavour, but he already had great successes to his credit, and it will be his triumphs rather than his tragic end which will be remembered by history.



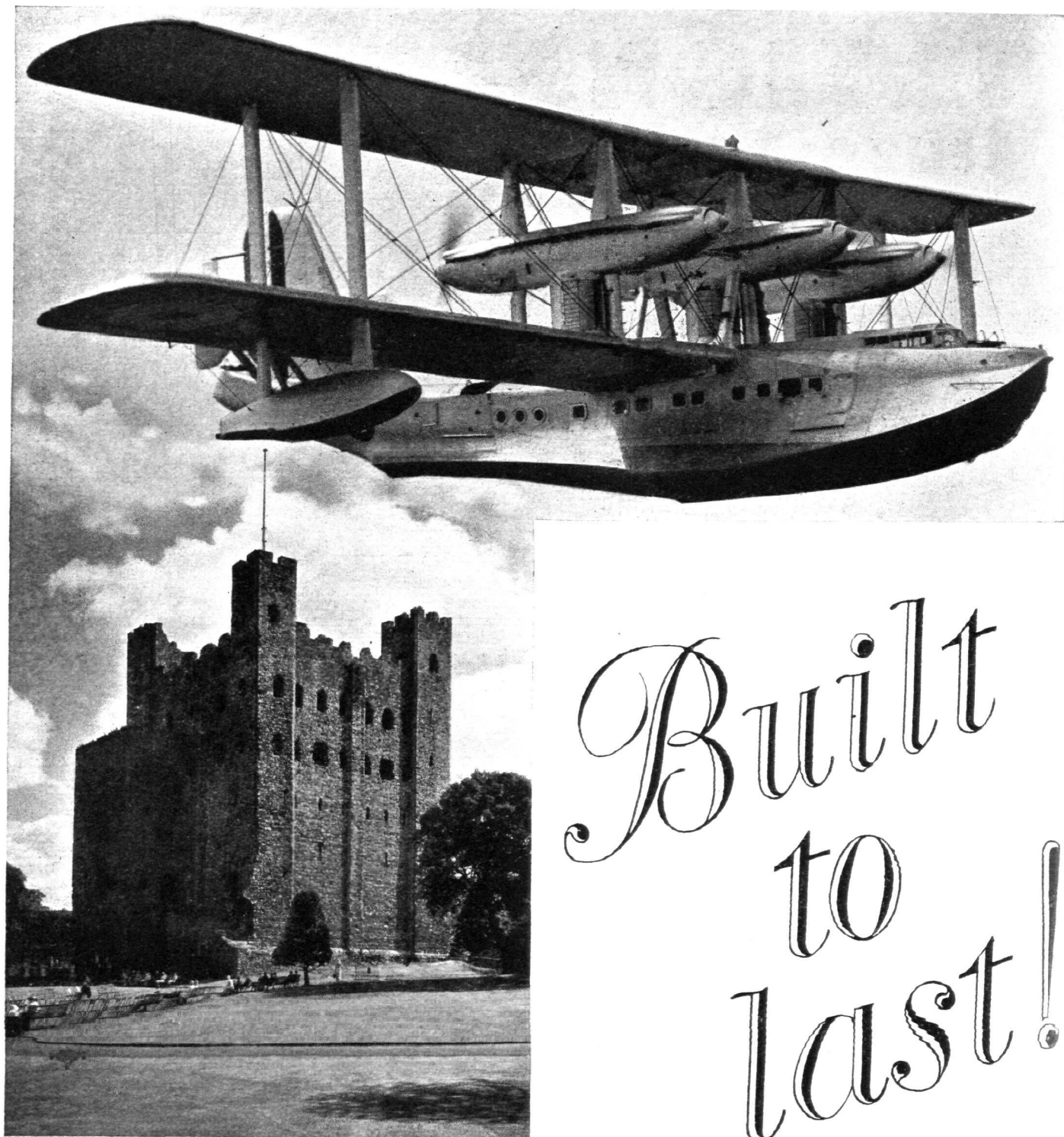
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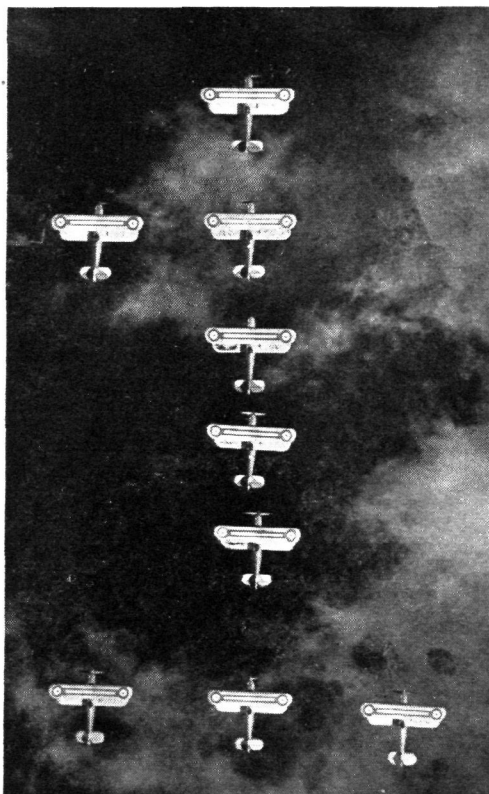


# Nº 1 (Fighter) SQUADRON

By MAJOR F. A. de V.  
ROBERTSON, V.D.

TO the student of history there is always something especially intriguing about the number One. It seems to carry with it the essence of the romance of the past. The flippant may say, "Ten sixty six and all that," but King William the First (the number in italics) was the start of an era which has made a lot of difference to the daily lives of you and me. Perhaps before very long the time will come when light-hearted young pilot officers will say, "Oh! 1914 and all that," and perhaps already it may be the fashion to regard the possession of war medals as proof of an antediluvian ignorance of modern theories of war. It is, however, very improbable that any passage of time will prevent an officer of No. 1 (Fighter) Squadron from taking pride in the number of his squadron.

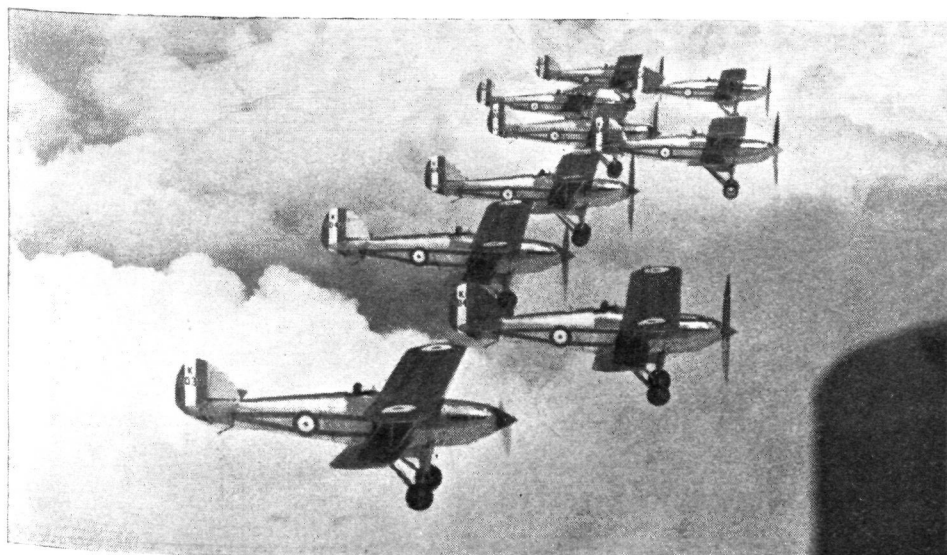
The origin of No. 1 Squadron is not crystal clear, despite the number. The question is, can the squadron claim direct descent from the original No. 1 Squadron, Royal Flying Corps? That squadron was equipped with airships, balloons and kites. Its commanding officer was Maj. (afterwards Air Commodore) E. M. Maitland, who died in the R.38 disaster. In January, 1914, the squadron was handed over, gas-bag and baggage, to the Royal Naval Air Service. That left No. 2 as the senior squadron in the R.F.C., and when war broke out, the four squadrons which crossed to France with the Old Contemptibles were Nos. 2, 3, 4, and 5. Before that fateful August a beginning had been made to replace the lost No. 1 Squadron as an aeroplane unit of



"1": No. 1 (Fighter) Squadron do a little figure-writing, being naturally proud of their number. (FLIGHT Photo.)

day on which the battle of Neuve Chapelle began. On the third day of the fight the squadron suffered its first casualty, when Lt. O. M. Moullin did not return from a bombing raid on the railways at Douai and Don. On March 29 the squadron settled down at Bailleul aerodrome, and remained there until March 29, 1918, an unusual experience for any squadron in France. During the fighting for Hill 60, No. 1 Squadron first made a name for itself.

This fight took place in April, 1915, just before the second battle of Ypres and the first gas attack by the Germans. The assault on Hill 60 was to start at 7 p.m. on Saturday, April 17, and it was important that the Germans should get no news of the assault troops moved up on our side. Maj. Salmond was given the task of keeping German aeroplanes from getting a view of our position that day before the assault. He sent up a patrol at 4.30 a.m. and kept his patrols relieving each other all day, the times overlapping, until 7.15 p.m. It is not usually possible to establish an impenetrable line of defence in the air, but on this occasion no German machine got past the patrols of No. 1 Squadron, and the attack on the hill came as a surprise. Then came counter attacks, and the hill was taken and lost several times. During this fierce fighting No. 1 Squadron was given the task of spotting the enemy guns, sometimes by their



FLIGHTS LINE ABREAST: The clean lines of the Hawker "Furies" (Rolls-Royce "Kestrels") show up well in this effective formation. (FLIGHT Photo.)



**THE C.O. : Sqd. Ldr. C. B. S. Spackman, D.F.C., in his Hawker "Fury." (FLIGHT Photo.)**

flashes, and the word "flash patrol" came into use. Capt. Ludlow-Hewitt was particularly successful in this work, and our gunners were able to silence a number of the German batteries and so relieve the strain on the infantry. On one day the squadron plotted the position of 33 German guns. This work was carried on with considerable success on the 18th, 19th, and 20th. Arrangements were made with the Corps artillery to fire at once in response to signals from the aeroplanes. Maj. Salmond was himself a gunner officer, and understood the needs of the artillery. So successful was this early experiment in artillery co-operation, that on one occasion the mere appearance of an aeroplane over the hill caused the German bombardment to cease, until at 7.15 failing light sent the pilot home, when the German guns at once opened fire again. On a later occasion a pilot of No. 1 saw German troops moving up in numbers behind their lines and sent out a call for the guns to open with shrapnel. There was no response, and it was found out that the batteries had been changed, and the newcomers did not understand the call from the air. This led Maj. Salmond to take up the question of a standard system of co-operation between the aircraft and the artillery throughout the Army, and his plan was shortly afterwards adopted.

In the spring of 1915 new machines arrived for the squadron, and at that time they had a very mixed lot,



consisting of four Morane "Parasols," three Avros, one Martinsyde, one B.E.8, as well as one Morane "Scout" and one Bristol "Scout" for fighting. Presently it was realised that squadrons ought to be homogeneous in the matter of machines, and it was gradually becoming possible to get enough machines of one type, though the type might be of French design. By October, 1915, No. 1 Squadron had a complete equipment of "Parasols."

One of the earliest victories of No. 1 took place on May 3. Lt. V. A. Barrington-Kennett (a brother of Maj. B. H. Barrington-Kennett of the Guards, who had been the first adjutant of the R.F.C.) was up in the B.E.8 with Lt. L. F. Richards as observer, when they saw an

"Aviatik" over Lizerne. Twice they pursued it to Houthulst Forest, but had not speed to catch it. The German was persistent, and came back again, but Barrington-Kennett was wily. He climbed up to 7,000 ft., and when the "Aviatik" made its third attempt to get to the lines, he dived on it and got off about 35 rounds from the Lewis gun from about 250 ft. above it. The German dived almost vertically over Houthulst Forest and did not reappear. On July 5, Capt. C. E. Stodart with 2nd Lt. M. S. Stewart in an Avro shot down the first enemy aircraft which was confirmed as a victory for the squadron.

The summer of 1915 was the period of the "Fokker Menace." The Fokker in question was the monoplane with a synchronised gun firing through the propeller. The stock manoeuvre of the Fokker pilots was a steep dive from a height, firing on the way, and continuing the dive until out of range of the Allied machine. Max Immelman improved the technique by discovering a climbing turn which saved time in making a second similar attack. Apart from its fixed gun, the Fokker monoplane was not really a very formidable fighting machine, but our types were now antiquated and could make no adequate reply, so the casualties of the R.F.C. were heavy in that summer. Another very formidable German fighter was the "Albatros." Baron von Richthofen was



**No. 1 (FIGHTER) SQUADRON :**  
The squadron marking is two red lines, parallel on the upper planes, but converging on the fuselage.  
(FLIGHT Photo.)

flying one of these when he fought Maj. Hawker, V.C., in a D.H.2, which had a movable gun. Richthofen killed Hawker. On September 7, 1915, a Morane of No. 1 Squadron, with 2nd Lt. R. Balcombe-Brown as pilot and Lt. M. C. K. Hughes as observer, was up on a close reconnaissance near Ypres when it was attacked by four "Albatros" fighters. The Lewis gun was on a fixed mounting, pointing forward, which meant that the observer was unarmed against an attack from the rear. These difficulties of our men in early fights show how slow the people at home were to realise the needs of an air fighter and to overcome the difficulties in the way of providing for those needs. Still, do we even yet know for certain whether the single-seater fighter or the two-seater fighter is going to be the more effective in the next war? The Morane was naturally trying to get away from the four fighters, and finally succeeded through a ruse. When the enemy had got within a range of about 250 yards, the pilot fired the Lewis into the air, while the observer pointed a telescope at the Germans, who mistook it for a rear gun. Evidently they were not as stout-hearted as many German fighters proved to be, and they seem to have made no attempt to get under the tail. Instead, they immediately sheered off out of range and followed the Morane almost to the lines at a discreet distance.

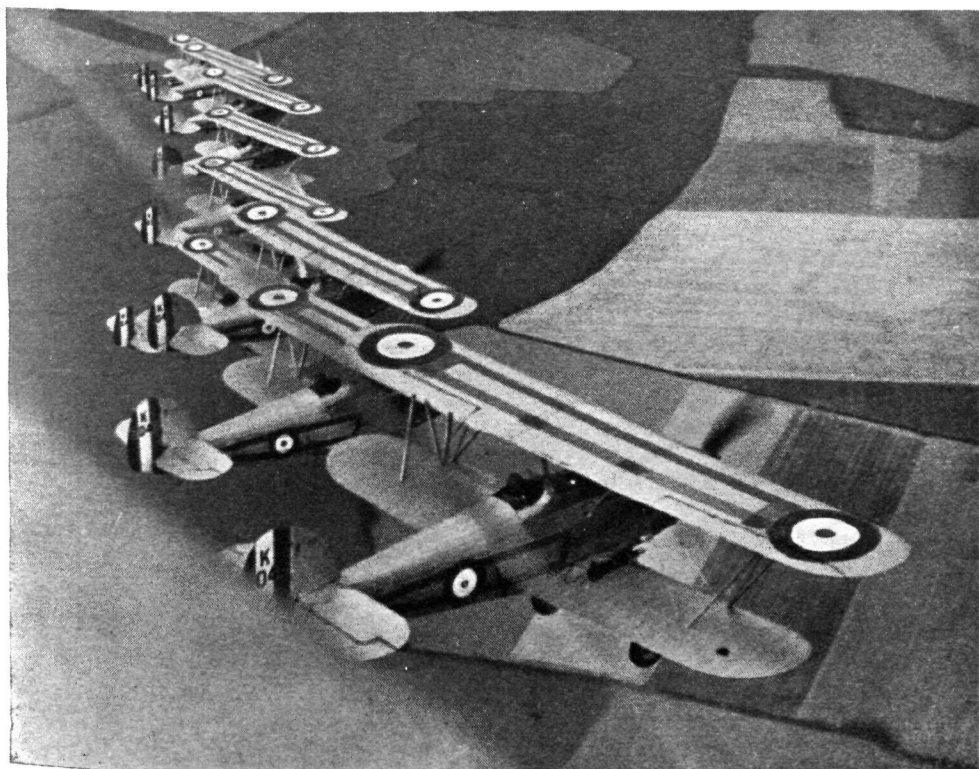
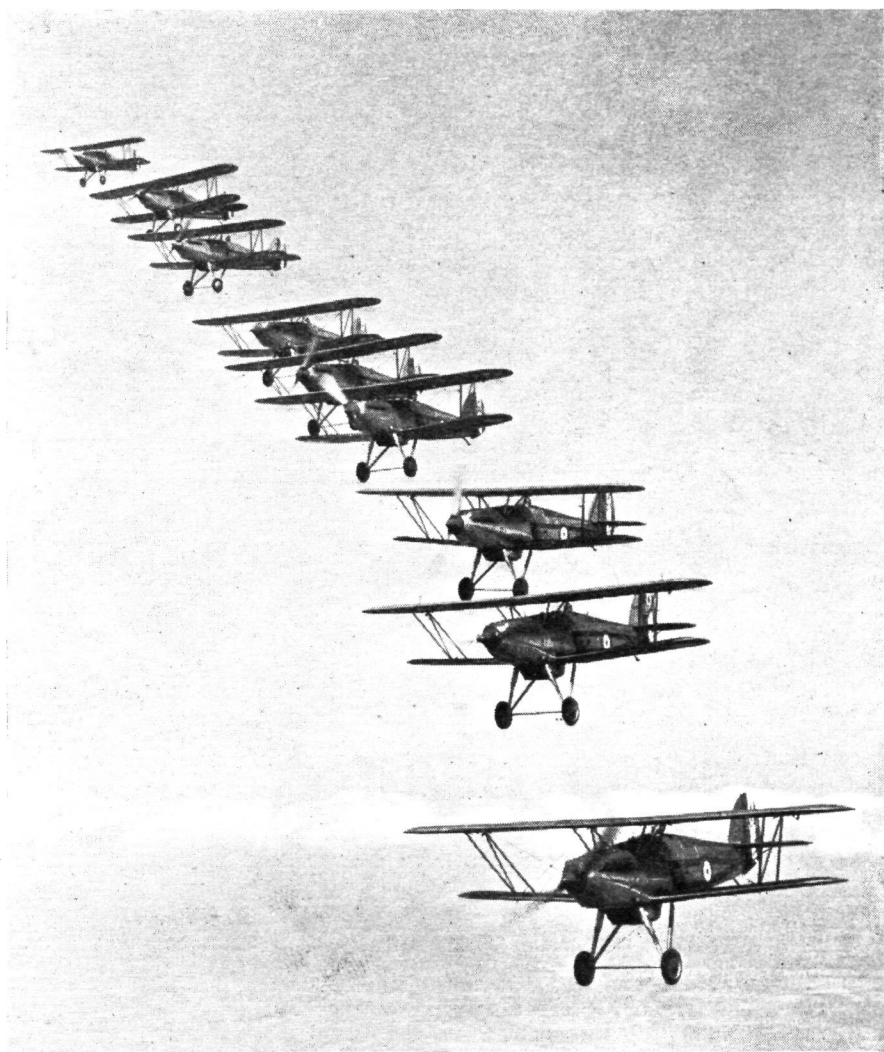
In August, 1915, Maj. Salmond gave over the command of the squadron which he had led so well to another very distinguished officer, Maj. (now Air Vice-Marshal) P. B. Joubert de la Ferté. He only kept the command for three months, and was then succeeded by Maj. (now Wing Com.) G. F. Pretymann. In December, 1916, Maj. G. C. St. P. de Dombasle took over the command. During the command of Maj. Pretymann, an important change took place. The squadron was selected by General Trenchard for conversion to a fighter squadron, and was completely equipped with Nieuport "Scouts."

It has remained a fighter squadron ever since. The change, however, was not completed until the end of January, 1917, and in the meantime Army co-operation work was still carried out.

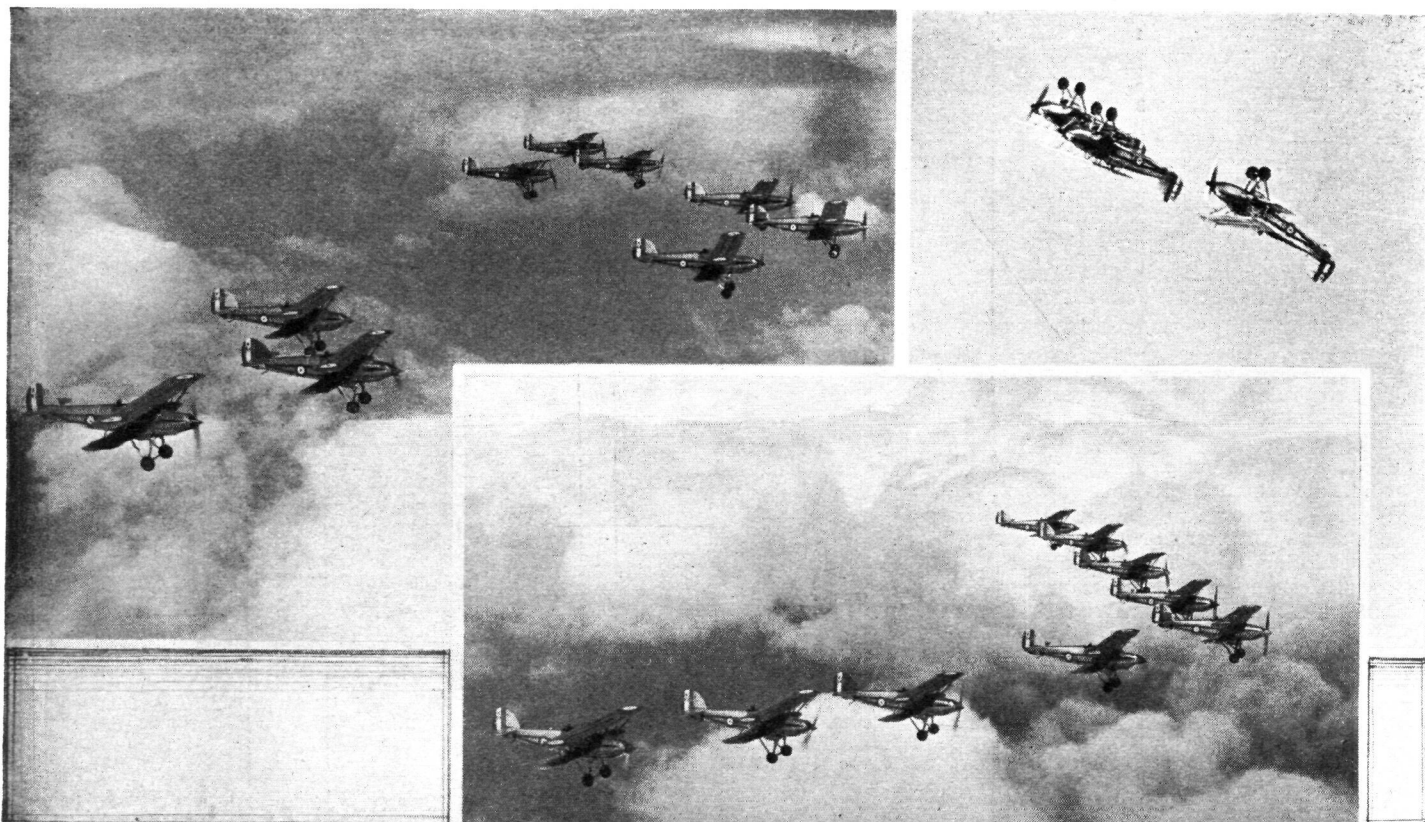
Towards the end of the year No. 1 Squadron provided an escort of two machines for the first large bombing raid made by the British. Sixteen machines of the 2nd Wing concentrated on the British side of the lines and then flew in formation to attack Comines railway station. No enemy aircraft ventured to attack this formation. The experiment proved a success, and this plan was extensively followed thereafter.

In June, 1916, the squadron was partially re-equipped, and its establishment was raised to 18 machines, but these were partially Moranes and partially Nieuports. In a short article it is impossible to follow all the fortunes of the squadron throughout the war. Only a few outstanding points can be noted. In 1917 a number of fine victories were scored by a flight commander of the squadron, Capt. C. J. Q. Brand. He afterwards became famous for his flight with Van Rynefeld to South Africa, for which both were knighted, and Wing. Com. Sir Christopher Brand, K.B.E., D.S.O., M.C., D.F.C., is now seconded as chief of the flying corps of the Egyptian Army.

**ECHELON ON THE RIGHT, STEPPED UP:** Two views of No. 1 (Fighter) Squadron in one of the most difficult of all formations. (FLIGHT Photos.)







**No. 1 (FIGHTER) SQUADRON :** In the left-hand picture the squadron is in Squadron Formation ; in the lower right-hand picture it is in Squadron V, and in the top right one of the flights is shown doing a "flight roll."  
(FLIGHT Photos.)

In September, 1917, the squadron was given Nieuports, type 27. In January, 1918, the fighting power of the squadron was enormously increased when they were given the S.E.5A. This change was perhaps belated. Already the squadron had made a great name for itself as a fighting unit. On October 9, 1917, the R.F.C. Communiqué stated:—"The enemy machines brought down to-day by No. 1 Squadron bring the squadron's total of E.A. shot down and driven down out of control since commencing work as a scout squadron on February 15, 1917, to two hundred machines." The rest of the war was spent in furious fighting and successful escort work. In February, 1919, the squadron was reduced to cadre, and then was sent home to London Colney. It was disbanded at

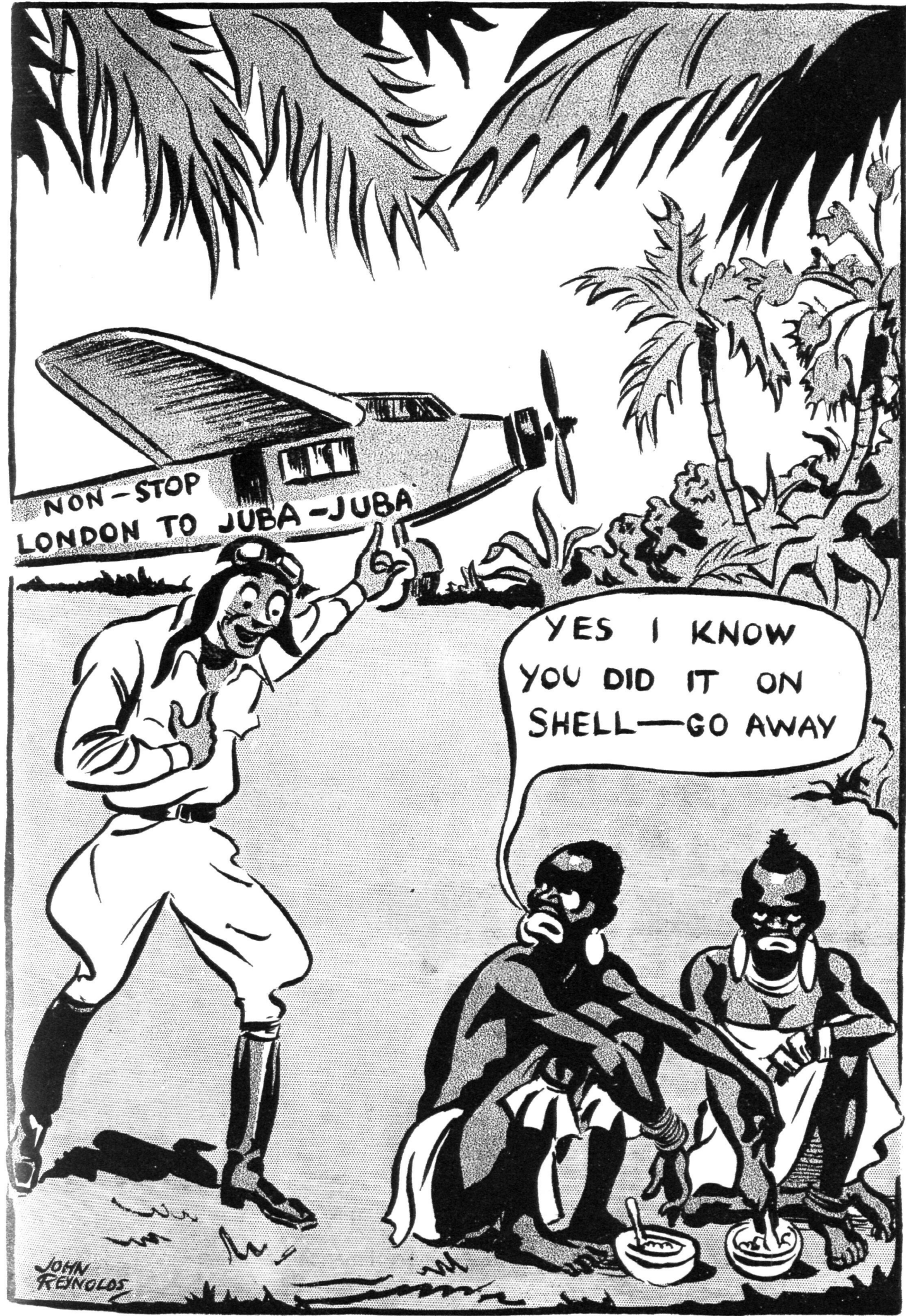
Uxbridge on January 20, 1920, and was reformed next day at Risalpur.

The re-formed squadron was equipped with "Snipes," and its duties were laid down as escort, bombing and ground strafing, and police co-operation. In November, 1922, the squadron moved to Bangalore, and thence to Hinaidi in Iraq. Nowadays fighter aircraft are not used in overseas commands, but in Iraq in 1923 the "Snipes" did good work in picking up messages from the ground and doing other co-operation work in the mountainous country which the bombers of that day could not have tackled so easily. During those years the squadron was commanded by the following squadron leaders:—J. B. Graham, M.C., G. G. A. Williams, E. O. Grenfell, M.C.,



**THE PILOTS :** Names, L. to R., P/Sergt. A. W. Hall, F/O. T. P. Gleave, F/O. G. J. S. Chatterton, F/O. H. Pilling, Flt. Lt. O. E. Carter, Wing. Com. R. M. Drummond, D.S.O., O.B.E., M.C. (O.C. Tangmere Station H.Q.), Sqd. Ldr. C. B. S. Spackman, D.F.C., Flt. Lt. G. A. Simons, F/O. J. L. M. Davys, P/Sergt. C. Scragg, P/Sergt. W. M. Hodge. (FLIGHT Photo.)





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## Defence by the bomber.

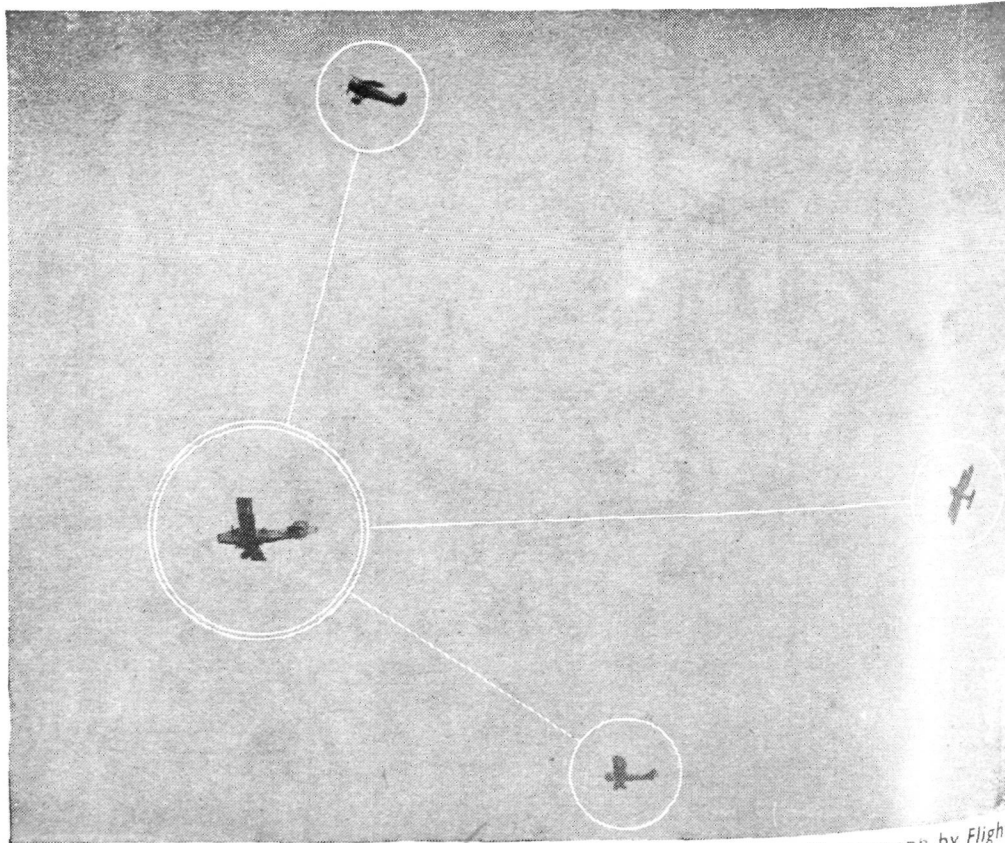
'The *Sidestrand* must be a very unpleasant opponent with 3 guns covering practically every line of attack.'

From "Flight," June 29, referring to the air combat at the R.A.F. display between a Boulton-Paul *Sidestrand* and three *Bulldogs*.

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D.F.C., A.F.C., E. D. Atkinson, D.F.C., A.F.C., and C. N. Lowe, M.C., D.F.C. In November, 1926, the squadron was withdrawn from the Iraq Command. Some of the personnel were distributed among other units in the Command, while the rest returned to Tangmere to form part of the reorganised No. 1 (Fighter) Squadron. On March 21, 1927, Flt. Lt. F. L. Luxmoore was given the command. The squadron was equipped with "Siskins," until February, 1932, when it received its present equipment of "Furies." Subsequent C.O.'s were Sqd. Ldrs. E. D. Atkinson, D.F.C., A.F.C., S. F. Vincent, A.F.C., E. O. Grenfell again, and the present C.O., Sqd. Ldr. C. B. S. Spackman, D.F.C.

That the squadron still keeps up its very high standard of efficiency was amply apparent to those who saw its "flight rolls" with wing tips looped together at the Andover Display and at Hendon this year. Those of our readers who were not so fortunate as to be present at either of those functions may form a good opinion of the flying quality of the squadron from the series of photographs taken by FLIGHT's chief photographer to illustrate this article.

#### Royal Air Force Squadrons

Other descriptive articles concerning the work of various R.A.F. Squadrons, etc., have been published in FLIGHT as follow:—

H.M. Aircraft Carrier *Glorious*. May 16, 1930.  
No. 4 (Army Co-operation), South Farnborough; No. 17 (Fighter), Upavon; and No. 33 (Bomber), Eastchurch. June 27, 1930.  
No. 601 (County of London (B.) Sq., A.A.F. (at Lympne). August 15, 1930.  
No. 43 (Fighter) Sq. (Tangmere). September 19, 1930.  
No. 2 (Army Co-operation) Sq. (Manston). December 19, 1930.  
No. 101 (Bomber) Sq. (Andover). April 24, 1931.  
Nos. 240 and 209 (Flying-Boat) Sq. (Mount Batten). June 12, 1931.  
"1890-1912-1931." (An outline of the Growth of the R.A.F.) June 26, 1931.  
Cambridge University Air Sq. (at Old Sarum). July 10, 1931.  
Central Flying School (Wittering). July 17, 1931.  
Submarine Aircraft Carrier "M.2." July 31, 1931.  
Oxford University Air Sq. (at Eastchurch). August 7, 1931.  
No. 600 (City of London (Bomber) Sq., A.A.F. (at Tangmere). August 21, 1931.  
No. 605 (County of Warwick (Bomber) Sq. (Cas. Bromwich). April 1, 1932.  
No. 40 (Bomber) Sq. (Upper Heyford). May 13, 1932.  
Nos. 7 and 58 (Bomber) Sq. (Worthy Down). June 10, 1932.  
A visit to H.M.S. *Exeter* of 2nd Cruiser Squadron, Home Fleet. June 17, 1932.  
Oxford University Air Sq. (Eastchurch). July 22, 1932.  
Cambridge University Air Sq. (Netheravon). August 5, 1932.  
No. 1 Air Defence Group (A.A.F. and Cadre Sqs.). August 12, 1932.  
No. 100 (Bomber) Sq. (Donibristle). August 19, 1932.  
Scotland's Auxiliaries; No. 602 (City of Glasgow) (Bomber) Sq. and No. 603 (City of Edinburgh) (Bomber) Sq. September 16, 1932.  
London's Auxiliaries; Nos. 600, 601, and 604 B. Sq. October 20, 1932.  
No. 25 (Fighter) Sq. (Hawkinge). December 8, 1932.  
No. 19 (Fighter) Sq., Duxford. January 5, 1933.  
Aircraft Carrier H.M.S. *Courageous*. January 12, 1933.  
Lee-on-Solent. February 9, 1933.  
No. 23 (Fighter) Squadron. March 2, 1933.  
Gosport. The Fleet Air Arm Base. March 30, 1933.  
Larkhill. R.A.F. Balloon Centre. June 8, 1933.  
The R.A.F. Staff College, Andover. July 20, 1933.  
No. 99 (Bomber) Sq., Upper Heyford. August 3, 1933.  
No. 26 (Army Co-operation) Sq., Catterick. August 10, 1933.  
No. 3 Flying Training School, Grantham. August 17, 1933.



## Airisms from the Four Winds

### R.A.F. Flying Boats in Finland

As was reported in FLIGHT last week, four "Southampton" flying boats (two "Lion V" engines), of No. 204 (Flying Boat) Squadron, left Mount Batten on Monday, August 28, for Helsingfors. On Thursday, August 31, one of the flying boats was forced down on the water off the Helder in North Holland; another machine alighted alongside. The defect was soon remedied, but the sea was too rough for the flying boats to take off. The two other machines continued their journey, and arrived at Esbjerg in Holland. On the same day three of the boats arrived at Copenhagen. On Saturday, September 2, they arrived at Helsingfors after having been delayed by bad weather; the fourth boat turned up the next day.

### The Mollisons' Flight

THE De Havilland works are rushing through the new "Dragon" which Lord Wakefield has presented to Mr. and Mrs. Mollison. It is hoped that this machine, to be called *Seafarer II*, will be ready to be shipped to America on Friday, September 8, on the Canadian Pacific liner *Duchess of York*. Mr. Mollison will travel on the same boat. The attempt on the long-distance record, which the Mollisons hope to make, will be from Canada, and not from the United States. *Seafarer II* will be assembled at the works of the De Havilland Company of Canada.

### Gordon Bennett Balloon Race

THE race for the Gordon Bennett Trophy started on Saturday, September 2, from the Curtiss Wright Reynolds Airport, Chicago. Lt. Com. T. G. W. Settle, of the United States Navy, the winner of last year's contest, heads the list of entrants. France is represented by George Blanchet and George Ravase, Belgium by Philippe Querson and Marcel Van Schelle, Poland by Capt. Francischek and Lt. Zygniew Burzynski, and Germany by Richard Schurtze and Dr. Koerner. The French balloon came down in a field six miles south of Albion, Michigan.

### Balloon Record Claim

A NEW balloon record is claimed by three Essen balloonists, Balbas, Dahl, and Popp, who say that they have reached a height of 36,000 ft.

### Col. Lindbergh Visits Stockholm

COL. AND MRS. LINDBERGH arrived by air in Stockholm on Monday, September 4, and were met by the Chief of the Swedish Air Force and the American Minister. While in Denmark Col. Lindbergh and his wife had the honour of being received by the King and Queen of Den-

mark, and later when they crossed into Sweden had lunch with the Crown Prince and Princess of Sweden.

### The British Gliding Association

THE British Gliding Association have decided to hold a Gliding Meeting on Saturday and Sunday, October 7 and 8, at Sutton Bank site, Yorkshire. The object of this Meeting is to hold contests, for the "Wakefield"



OUR AIR-MINDED PREMIER: Mr. Ramsay MacDonald alighting from a "Dragon" at Aldergrove, Ulster, after a flight from Lossiemouth on August 30 to visit the Marquis and Marchioness of Londonderry. He returned to Hendon on September 3 in a R.A.F. machine.



and other trophies, which did not take place at Huish owing to weather and other adverse conditions. The site is suitable in every way for a Meeting, having hills favourable for S., S.W., W., W.N.W. winds, and good launching and landing grounds. There is a hotel near the site where good accommodation can be arranged. The entry fees will be 2s. 6d. for the Competitor's Register and 5s. per pilot, but those who entered for the Huish Meeting will be exempt. Will those who contemplate entering machines for these Contests, kindly notify the Secretary, 19, Berkeley Street, London, W.1, as soon as possible?

## World's Long-Distance Record

THE recent long-distance (straight-line) record flight of Rossi and Codos from New York to Rayak has been homologated at 9,104.7 km. (5,657.407 miles). Gayford and Nicholetts record was 8,544 km. (5,309 miles).

## V.C. Officer Invalided Out

FLT. LT. ALAN JERRARD, V.C., has just been invalided out of the Royal Air Force. This very gallant officer was educated at Oundle School, which he left in 1915, going to Birmingham University, where he was trained in the O.T.C. In January, 1916, he was commissioned in the South Staffordshire Regiment, T.F., but in August of the same year he joined the R.F.C. A year later he was in France with No. 19 Squadron (an article about which appeared in our issue of January 5 last), and in February, 1918, went to the Italian front with No. 66 Squadron. On March 30 he took part in the fight for which he was awarded the Victoria Cross. He was taken prisoner in that fight, but was released when the Armistice was signed. The *London Gazette* of May 1, 1918, gives the following account of his exploits:—

"When on an offensive patrol with two other officers he attacked five enemy aeroplanes and shot one down in flames, following it down to within 100 ft. of the ground. He then attacked an enemy aerodrome from a height of only 50 ft. from the ground, and, engaging single-handed some 19 machines which were either landing or attempting to take off, succeeded in destroying one of them, which crashed on the aerodrome. A large number of machines then attacked him, and whilst thus fully occupied he observed that one of the pilots of his patrol was in difficulties. He went immediately to his assistance, regardless of his own personal safety, and destroyed a third enemy machine. Fresh enemy aeroplanes continued to rise from the aerodrome, which he attacked one after another, and only retreated, still engaged with five enemy machines, when ordered to do so by his patrol leader. Although apparently wounded, this very gallant officer turned repeatedly and attacked single-handed the pursuing machines, until he was overwhelmed by numbers and driven to the ground. Lieut. Jerrard had greatly distinguished himself on four previous occasions, within a period of 23 days, in destroying enemy machines, displaying bravery and ability of the very highest order."

## Mr. William Henry Knight

WE deeply regret to announce the sudden death, on Sunday, August 27, at Sidmouth, of Mr. William Henry Knight, well known to everybody, past and present, connected with Civil Aviation at Croydon Aerodrome as the Customs Officer with the longest record of air service. So far as is known at the time of writing, Mr. Knight died of heart failure following a swim in the sea. The news comes as a complete shock to his many friends, for he was a man apparently in the very best of health, active and athletic despite his 56 years. Civil Aviation owes Mr. Knight a deeper debt than is perhaps generally realised. From the very first day the Airport of Croydon was opened he was Customs Officer, and in the early days he did much to persuade Customs Headquarters in London that air clearance of freight had to be quicker than shipping

clearance. By his tact, hard-working qualities and absolute fairness of outlook, he earned the affection and admiration, not only of his colleagues, but also of the Air Traffic Company's managers and staffs. Mr. Knight had some 38 or 39 years' service with His Majesty's Customs, and for the last 13 of these useful hard-working years he was a familiar figure at the Airport of Croydon. He leaves a widow and one daughter, to whom in their deep affliction everybody at Croydon Aerodrome will extend sincere and heartfelt sympathy.

## National Flying Services, Limited

NATIONAL FLYING SERVICES, LTD., held their Third Annual General Meeting at Hanworth Club on Wednesday, August 23, when the chairman (Mr. J. G. Peel, J.P.) took the opportunity of giving a brief historical survey of the company. He pointed out that, due to various causes, there had been very heavy losses, although these losses had lately considerably diminished in extent, despite the fact that the general uncertainty as to the company's business had kept from them a great deal of business which they would otherwise undoubtedly have secured. A scheme for reconstruction had, for some time, been under consideration, but it had been found desirable to apply to the Court for the appointment of a receiver and manager. This appointment was made on June 20, 1933, and it was hoped that the period of the receivership would serve to enable the directors to complete their scheme and present it to the receiver and to the Court for ratification. In the meantime the ordinary services of the company were being conducted as usual. There were undoubtedly great possibilities for such an organisation as National Flying Services, and it was very much to be hoped that they would be able to reap their share of the better times which were certainly coming to the aviation world.

## Efficiency

MR. HUBERT SCOTT-PAINE suffered defeat at Detroit, but what a magnificent performance nevertheless. Matched against Gar Wood's *Miss America X*, with engines totalling about 8,000 h.p., the little *Miss Britain III* was only 22½ seconds behind the American monster, in spite of the fact that she relied upon a single Napier "Lion" of approximately 1,375 b.h.p. For sheer efficiency there can be no comparison between the two boats, and Mr. Scott-Paine's unorthodox design has been fully vindicated. It is to be hoped that for next year's Harmsworth Trophy Race he will have available an engine of just a little more power. The average speeds of the two boats this year were: Gar Wood's *Miss America X*, 86.9 knots (100 m.p.h.); Mr. Scott-Paine's *Miss Britain III*, 85.8 knots (98.8 m.p.h.).

## "Gentlemen, on My Left . . . ."

A SIMILARITY in size was responsible for a transposition of two blocks in last week's issue of FLIGHT. On p. 872 appeared portraits of Com. Deacon and Mr. Rowarth, taken on the occasion of the Folkestone Race. Unfortunately the two blocks were transposed, and the mistake was not discovered until a fairly large number of copies had been printed. We would ask those of our readers who received these copies to note that Mr. Rowarth appeared on the left, Com. Deacon on the right. Mr. Rowarth could be identified by his staff of office, a slide rule projecting from his pocket.

## NEW M.G. MODELS

THOSE of our readers who like something really "snappy" for their ground transport, have probably already invested in an M.G. Not only they, but also those who will be following their example, will want to hear about the new 1934 models. The "J Midget" will only be offered as a two-seater, but with greatly improved body work. The engine has various modifications, with fully floating connecting rods, and pistons with controlled expansion. The compression has also been raised. The price will remain at £199 10s.

The "Magna," with its 1,087-c.c. six-cylinder engine, will remain, substantially, the same as last year, but to the already comprehensive range of body styles has been added a Continental coupé, the price of which will be £350.

The M.G. "Magnetite" will have a new type 1,286-c.c. engine, developed as a direct result of the knowledge

gained at racing during the past year. It will develop a very high horse-power and be particularly suitable for the sporting motorist. Preselector gear boxes and a new type, exceptionally smooth single-plate drive clutch are standard on the whole of the "Magnetite" range.

All closed M.G. cars will now be wired for radio and Philco sets can be fitted if required. *De luxe* equipment is also available on all models, including D.W.S. four-wheel jacks.

### 1st, 2nd and 4th in T.T. Race.

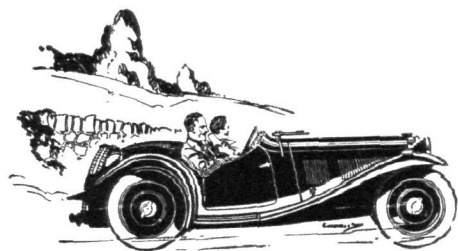
Congratulations to the M.G. Car Co., Ltd., on the splendid showing of their cars in the Ulster T.T. Race, in which first place was secured by Nuvolari in an M.G. "Magnetite" at an average speed of 78.65 m.p.h. Second was H. C. Hamilton, in an M.G. "Midget." His average speed was 73.46 m.p.h. E. R. Hall, on another "Magnetite," was fourth. "M.G." for "Magnificent Going"!

# SAFETY FAST!



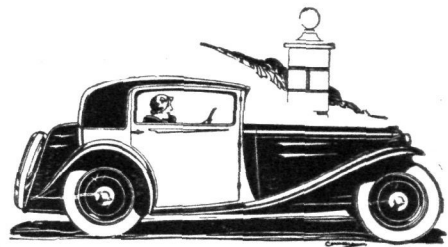
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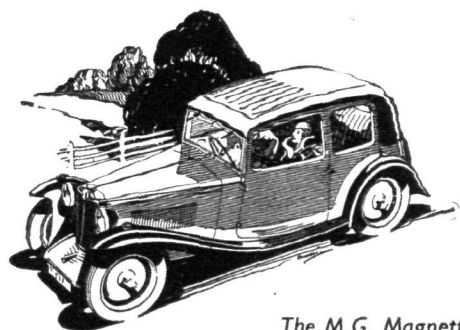
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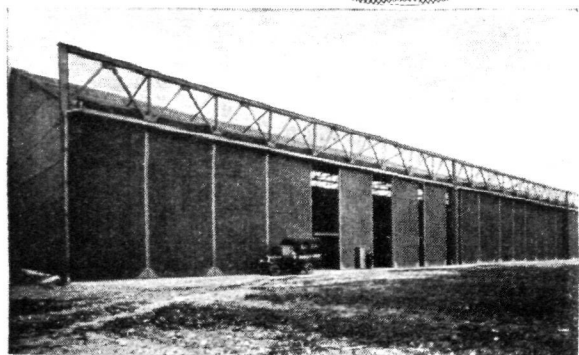
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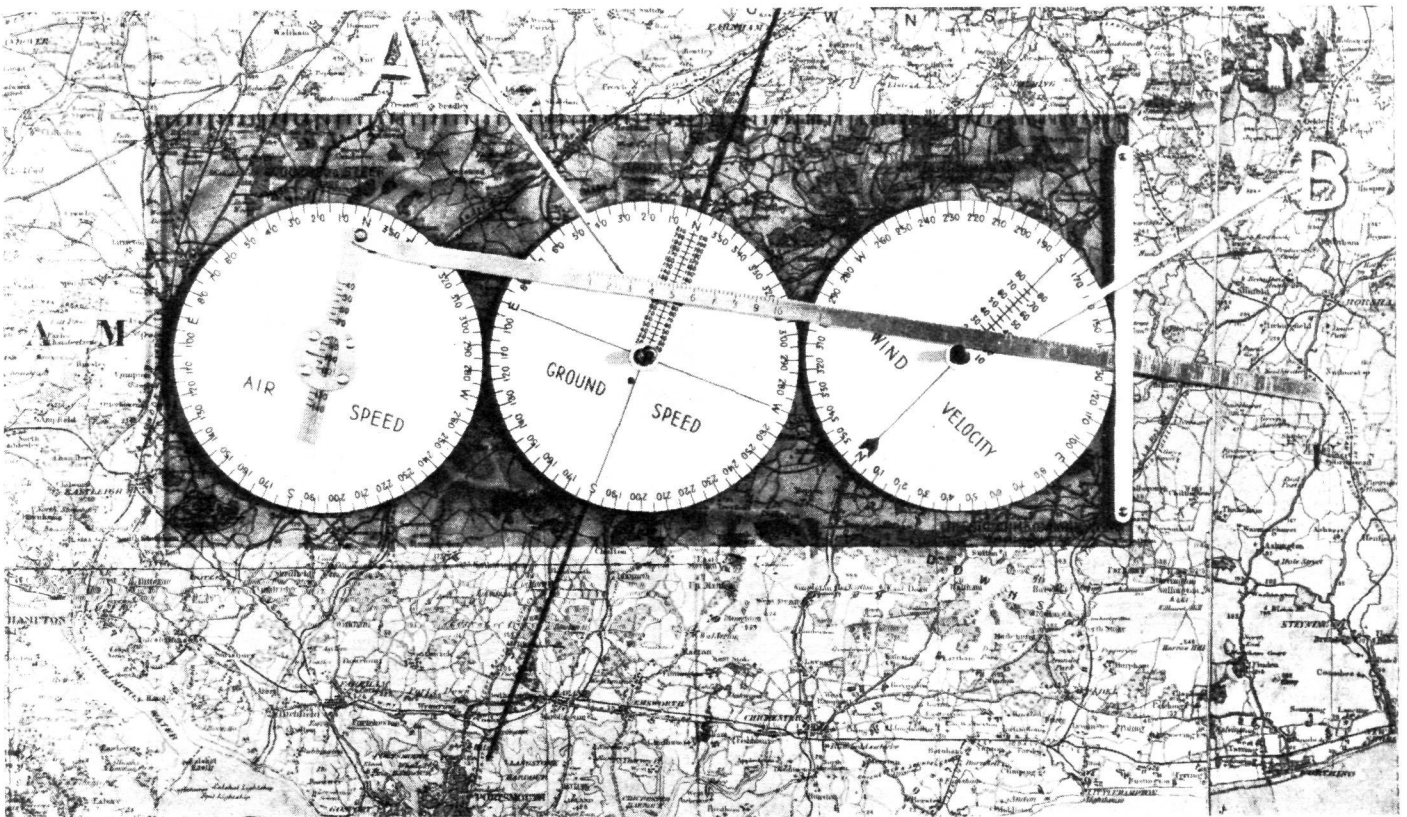


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# An Easy Course Calculator



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It will appeal to the ordinary man who flies, because it is so arranged that each of its three dials has only one function to perform, and the chances of making errors are therefore greatly reduced.

Any three-vector problem can be solved rapidly. For example, it is easy to find the magnetic course to steer and the ground speed made good when the airspeed, track and wind are known; or, when the airspeed, course and wind are known, the track and ground speed can be ascertained without recourse to pencil and paper.

The ordinary C.D.C., of course, does the same thing, but this new calculator is certainly very much simpler for general use, besides being considerably cheaper.

As can be seen in our photograph, the calculator consists of a transparent rectangular base, carrying three dials engraved to represent the three vectors:—Airspeed and course, ground speed and track, direction and velocity of wind. Each dial has, therefore, only one duty to perform, and any possibility of confusion is thereby avoided. Two arrows marked MAGN and TRUE are provided against each dial; it is therefore possible to read off True or Magnetic readings without the need for any calculation. A ruler, engraved with two scales, lies across the three dials, scale (A) being over the "Ground speed" dial and scale (B) over the "Wind" dial.

An advantage of this type of calculator is the ease with which it can be used on a map. For example, we have in the normal course of events a line drawn on the map representing the Track we wish to make good. The calculator can then be laid on the map, with its shorter sides parallel to the grid lines on the map, in such a position that the Track Line can be seen through the hole in the centre of the Ground speed Dial. The dial is then rotated until the North and South line on it coincides with the Track Line. The Track required will then be found against the arrow (magnetic or true). When the Track runs nearly East and West, it is easier to set the calculator

on the map with its longer sides parallel to the grid lines. The Track Line will, as before, have to pass through the hole in the centre of the Ground speed Dial, but now the dial must be turned so that the East and West line coincides with the Track.

After having found the Track in this manner, which for the sake of example we will suppose is 10 deg. true, we will assume that we wish to find the Magnetic Course to steer, and the Ground speed. The Airspeed of our aeroplane we will take as being 85 m.p.h. and the wind as blowing at 40 m.p.h. from 150 deg. true. First we slide the Airspeed Scale, which forms the end hinge of the cross ruler, so that 85 comes opposite the index line on the metal clip. The Ground speed Dial has already been set as above, so the next thing to do is to rotate the Wind Dial to 150 deg. true. Then, while keeping the edge of the cross ruler on the 40-m.p.h. division of the scale on the Wind Dial, we rotate the Airspeed Dial until the line of Ground speed figures on the Centre Dial cuts the scale (A) on the cross ruler, at the same reading as the line of Wind Velocity figures cuts the scale (B). We can then read off the Course to Steer and the Ground speed. These will be found to be 42 deg. magnetic and 112 m.p.h. respectively. It should be noted that we have without difficulty found the Magnetic Course to Steer, although we started with a True Track and Wind Direction.

Any other three-vector problem can be solved with equal facility. It is easy to find the Track and Ground speed when the Airspeed, Compass Course, Wind Direction and Velocity are known, or the wind can be found when the Airspeed, Compass Course, Drift and Ground speed are known.

The Bearing can be found between two places on a map in exactly the same way as the Track was determined in the above example, while a scale of inches is engraved along the edge of the calculator so that distances may be measured off. Another refinement, which can be incorporated at a small extra cost, is a Time and Distance Scale mounted on the underside. The plain calculator only costs 19s. 6d. and is the simplest of its kind which we have met. Its accuracy would appear to be ample for all normal flying.

## British Machines for Australia

A REPORT from Australia states that in all probability a large order for service machines will be given to British aircraft firms by the Australian Government within the next few months.

## Deutsch de la Meurthe Cup

THE AÉRO CLUB DE FRANCE has fixed May 27 for the date of the race for the Deutsch de la Meurthe cup next year. The distance will be 2,000 km., in two stages of 1,000 km., with a stop of one hour in between.

AIRWORTHINESS AND  
COMMON SENSE

By W. O. Manning, F.R.Ae.S.

*Mr. Manning is one of the pioneers among British Aircraft Designers, and was responsible for producing practical aeroplanes before such things as Government regulations and Certificates of Airworthiness existed. As Chief Designer to the English Electric Company, he produced some very interesting flying boat designs, and then added to his pioneering work by designing the first British light plane, the "Wren," which flew, and flew remarkably well, when driven by an A.B.C. motor-cycle engine of 400 cc. capacity only. He has thus a very wide experience of aeroplane production with and without Government regulation, and his comments upon some of the effects of the new load factor regulations are therefore entitled to be read with respect. Mr. Manning's article is, in effect, if not in actual wording, a plea for the use of a little common sense.—Ed.*

MANY modern inventions carry the seeds of potential danger to human life. Even with one hundred years of experience there is still an occasional railway accident. Ships are still occasionally lost at sea, in spite of modern improvements in propulsion and navigation, and motoring seems destined to become one of the great killing diseases of our time. It seems, therefore, that it is impossible to move about without taking some small amount of risk, but this statement does not preclude the fact that one is in some small danger when sitting still indoors. It is at least possible, though remote, that the structure supporting the roof may give way, burying the occupants of the house in a mass of *débris*; and there is another possibility, even more remote, that a house may be selected by chance as the enforced landing place of a disabled aeroplane. In such a case the risk to the inhabitants is great.

For some reason, which is not clear logically, this latter risk has been accepted as the one from which the householder must be saved, as far as it is possible to do it, by a mass of rules and regulations, and, although it is much more likely that any particular house will be battered by the impact of a disabled or skidding motor car, this latter risk is entirely ignored; there are no Ministry of Transport regulations on the strength or proportions of the steering gear of motor vehicles. Failure of the steering gear of a car is almost unknown, and the reason why this is so is simple. Everyone making and selling cars knows perfectly well that if the word once got round among possible buyers that the steering gear of the "X" car was unreliable, the sale of the car would drop to nothing, and the firm making it would retire into the seclusion of bankruptcy.

The knowledge of this cause and effect might reasonably be expected to influence the aeroplane manufacturer; knowing that his continued existence as a maker of aircraft depended on the reliability of his product, it would seem that he could be trusted to supply aircraft possessing sufficient strength and good flying capabilities, but it appears that this argument is not universally accepted, as the motor-car manufacturer is left to do what he likes, while the aircraft manufacturer is immersed

in a cloud of regulations dealing principally with the strength of the machine and the reliability of the engine. This adds materially to the cost of his product and, consequently, reduces his sales.

An aeroplane may fall on or run into our house owing to a number of different causes, one of which would be that the pilot of the aeroplane was unable to see properly where he was going, owing, say, to some part of the machine obstructing his forward view. This design defect would also be likely to lead to other accidents, such as collisions in the air, the result of which would be that the house below might be assailed by two machines simultaneously. But it happens that this matter is not considered in the regulations, though the consequences may be as serious as those resulting from any other type of accident.

On the other hand, the matter of the strength of the structure is regulated with great elaboration, and every part of the aeroplane which takes a load when the aeroplane is flying or landing has its strength carefully specified, and frequently the method by which this strength has to be ascertained is also laid down.

The methods by which the strength of aircraft is calculated are, generally speaking, subject to criticism from the scientific point of view, but although, in many cases, the calculated strength can only be an approximation to the real strength, yet the methods used have the advantage that they have been shown by long experience to be adequate, so that aircraft designed by these methods, with the appropriate load factors, do not break in the air. It is certainly possible that a structurally unsafe aeroplane could be made even if all these precautions were complied with, but the average aeroplane designer is a competent engineer, so that such unsafe aircraft are seldom produced.

But while we know that aeroplanes stressed according to official methods are safe in flight, our knowledge of the air loads which may be produced in flight is not at present adequate, so that it is at least possible that many of our present aircraft are stronger than is necessary, which means that they may be heavier and more expensive than they need be.

It has happened quite

List of new Load Factors, Normal and Acrobatic Categories, Subdivisions (a) to (e) (i.e., all aeroplanes except those in the "Special" Category). Main Plane Structure

Weight, lb.	Normal Category.	Acrobatic Category.
(1) Flying in Vertical Gusts (up to 25 ft./sec.)		
All weights .. .. .	2	2
(2) C.P. Forward Case.		
Less than 2,200 .. .. .	7	9
2,200 to 11,000 .. .. .	7—5	9
Above 11,000 .. .. .	5	9
(3) C.P. Back Case.		
Less than 2,200 .. .. .	5.25	6
Between 2,200 and 11,000 .. .. .	5.25—3.75	6
Above 11,000 .. .. .	3.75	6
(4) Fast Glide Case (1.5 times top speed).		
All weights .. .. .	2	2
(5) Super-stall Case (Slotted wings).		
All weights .. .. .	One-half C.P. Forward Factor, or 3, whichever is the greater.	
(6) Landing.		
All weights .. .. .	4.5 at rest on ground, plus 1.25 times factors required for under-carriages.	
(7) Terminal Velocity Dive.		
All weights .. .. .	—	2
(8) Inverted Flight-High Negative Incidence.		
All weights .. .. .	—	4.5

recently that the strength requirements for civil aircraft have been materially increased, which will result in the machines now being built carrying a greater amount of weight, in the form of wing spars, etc., than those of older design. It is difficult to criticise a regulation the reason for which has not been made clear, but it is obvious that those responsible must have come to the conclusion that the machines built to the older and smaller load factors possess inadequate strength. Experience suggests that this is not the case, but if such an opinion is really held, it is only logical to prohibit all flying on the older types of machines, and the fact that this has not been done suggests that there is a doubt as to the necessity for these increased factors among others than those in the position of "the toad beneath the harrow."

There have certainly been certain failures in the air, the reason for which has not been made clear, and which may not be understood. But before such a drastic step as increasing the load factors is taken, it would seem reasonable to ascertain whether the design of the aeroplane involved was or was not satisfactory, apart from its calculated strength; alternatively, whether it will ever be possible to design aircraft to withstand the air loads these machines may have failed under, and, at the same time, make them light enough to fly. From this consideration, it is pertinent to ask whether, if the aeroplanes involved had been designed in accordance with the new factors, there is any reason to suppose they would have survived?

However this may be, the result of the new regulations is that the structure weight of future civil aircraft will be

increased unless the designer prefers to take the alternative of getting back to his old weight by reducing the wing area and increasing the landing speed. Both of these results are highly undesirable. The first means a less efficient aeroplane and the second means an increased landing risk, and it is perfectly possible in an aeroplane to reduce a risk in one direction and to increase it in another, the result being a loss of safety instead of an increase.

It is not likely that it will ever be possible to produce an aeroplane which cannot be broken in the air, as it is always possible for the pilot to apply extreme manoeuvres which would produce enormous loads on the structure. But this condition is common to other forms of mechanical transport. Every engine driver knows that if he drives his train too fast round a curve it will leave the rails, and the normal car driver is careful not to steer his car into brick walls at speed. It is not practical to provide arrangements to prevent accidents due to extreme stupidity on the part of drivers of any mechanical appliance, and the aeroplane is no exception. It is probable, therefore, that the house will not be under a lesser risk if one of the future aircraft were flying over it as compared with the older type. The risk may even be increased, as if the designer has decided to provide for his heavier wings by reducing the capacity of his petrol tank, a convenient way of getting over the difficulty, the pilot is more likely to take risks on the distance he can fly non-stop.

W. O. M.

## Air Transport

### High-Speed Mail Machine

A NEW Pander high-speed mail-carrying machine is being constructed to fly from Holland to Batavia (8,700 miles) in four days. This machine is a low wing monoplane fitted with three Wright "Whirlwind" engines which develop 420 h.p. each. The top speed has been estimated as 224 m.p.h. The useful load will be 5,720 lb. for a gross weight of 12,320 lb. The wing loading is quoted at 25 lb. per sq. in. Wings and fuselage are of three-ply construction, wing spars being spruce and Bakelite, the ribs also are of Bakelite. The fuel to the extent of 660 gall. is carried in six electron tanks placed in the wings. Wind brake flaps are fitted to facilitate landing in small spaces. The under-carriage is in two independent parts lifting into the lateral engine nacelles. Some time ago a "Study Committee for the High-Speed Postal Connection of Holland to India by Aeroplane" was formed, which has been co-operating with the Dutch Steamship interests, the Dutch Shell Co. and the Dutch Royal Air Force. The first flight will be made by Mr. Geysendorffer and Ft. Lt. D. Asjes.

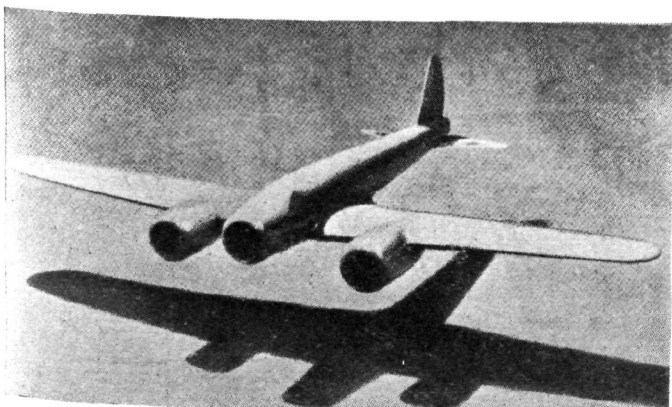
### "Air France"

THE new company, Air France, officially came into being on September 1. It has a capital of £800,000, and will receive £1,240,000 a year as subsidy from the Government. Daily air mail and passenger services will be

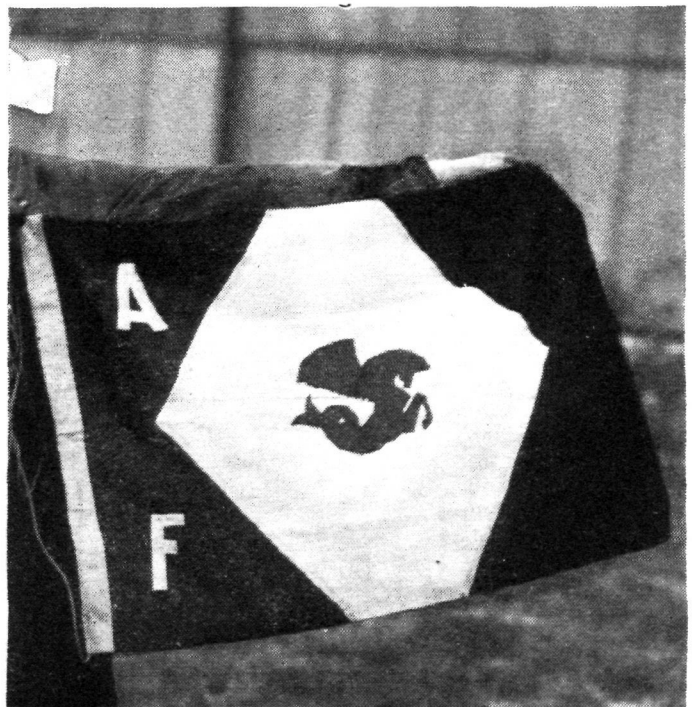
operated from Paris to London, Brussels, Amsterdam, Berlin, Warsaw, Vienna, Budapest, Athens and Constantinople. Weekly services will link France with French Indo-China, the Far East, Rio de Janeiro, Buenos Aires, and Santiago (Chile), by way of Dakar. The companies merged are: Air Union, Aéropostale, Air Orient, Farman Lines, and the Compagnie Internationale de Navigation Aérienne. They have all been subsidised. The merger will save the Government £200,000 a year.

### Wireless on the Empire Airways

WE have already referred to the long-range, short-wave wireless developments on the Empire routes of Imperial Airways. Some remarkable instances have been forthcoming, lately, of long-range wireless communication



A model of the new Pander Mail Carrier, referred to above, now under construction.



This is the new flag of "Air France," the French air transport combine.



between aircraft in flight and also between aircraft and ground stations. The other day, while one of the new "Atalanta"-type airliners was flying near Mpika, on the Africa air mail, its operator got into touch, and maintained communication for several minutes, with another aircraft of the same type which was then in the neighbourhood of Victoria West, approximately 2,000 miles away. Even at such a distance—representing a record for communication between aircraft on the Empire routes—both operators found reception excellent, with no fading or interference. Recently, also, while the air liner "Astraea" was making an aerodrome survey along sections of the Empire route between India and Australia, two-way communication from the air was established with Sydney over a distance of more than 5,000 miles, and maintained without difficulty for some time.

## Success of Humber Air Ferry

It would appear that the air ferry service between Hull and Grimsby, operated by the North Sea Aerial & General Transport, Ltd., and East Yorkshire Motor Services, Ltd., is proving a great success. We understand that since its inauguration on July 1 last, on the basis of three services per day, over 500 people have been carried, and a large number refused both at Hull and Grimsby. On and from Monday last, September 4, the service was increased to one trip every hour, from 9.5 a.m. to 5.5 p.m. from Grimsby, and 9.20 a.m. to 5.20 p.m. from Hull.

## New Machine for Misr-Airwork

MISR-AIRWORK, S.A.E. (the associated company of Airwork, Ltd., Heston), who already operate an air line between Cairo and Alexandria, have placed an order for a third aeroplane of the eight-seater de Havilland "Dragon" type. This new machine, which will be specially fitted up for long-distance flying, will inaugurate a regular service between Cairo, Luxor and Assouan. Arrangements are also being completed to establish a daily service between Cairo and Palestine. Misr-Airwork state that 81 passengers have been conveyed on their Cairo-Alexandria service during the past two weeks.

## Airship Service to South America

It is announced from Friedrichshafen that Dr. Eckner has concluded negotiations with the Brazilian Government for a regular airship service to South America.

## Bleriot Flying Boat Fire

THE Bleriot flying boat 5-190, fitted with four 650 h.p. Hispano engines, caught fire after a test flight on Friday, August 25. The metal structure and covering were partly damaged.

## Italian Air Transport

THE following statistics for the first half of 1933 show the increase of air transport in Italy. Passengers carried 19,735, an increase on the corresponding period of 1932 of 15 per cent. Air mail and newspapers 333,544 lbs., an increase of 23 per cent. Baggage 566,753 lbs., an increase of 21 per cent. And freight 221,670 lbs., an increase of nearly 39 per cent.

## Vancouver to Southampton Mail

As was reported in FLIGHT last week, Capt. Frank Hawks flew a letter from the Mayor of Vancouver to the Mayor of Southampton, from Vancouver to Quebec. The letter was then placed on the *Empress of Australia*, which arrived at Southampton on Sunday, September 3. The total time taken by the letter was 7 days 15 hr.

## Portsmouth and Isle of Wight Service

THE number of passengers carried during the week ending August 31 were as follows:—

SPITHEAD AIR FERRY ..	between	Ryde and Portsmouth ..	786
SHOREHAM AIR FERRY ..	"	Portsmouth and Shoreham ..	4
SHOREHAM AIR FERRY ..	"	Shoreham and Isle of Wight ..	4
SHANKLIN AIR FERRY ..	"	Portsmouth and Shanklin ..	20
SHANKLIN AIR FERRY ..	"	Ryde and Shanklin ..	31

## Air Mail Changes

THE Postmaster-General announces that as from September 1, in consequence of changes in the air services, the latest times (weekdays) of posting air mail correspondence for European countries in the air mail letter-box outside the General Post Office, London, will be as follows:—

5.30 a.m.	Austria, Czechoslovakia, Danzig, Germany, Greece, Holland Hungary, Norway, Sweden, Turkey, Yugoslavia.
6.45 a.m.	Denmark, Holland.
7.15 a.m.	Austria, Belgium, Czechoslovakia, Danzig, Denmark, France, Germany, Hungary, Italy, Norway, Poland, Roumania, Sweden, Switzerland, Yugoslavia.
9.0 a.m.	Belgium, Germany (Cologne).
11.0 a.m.	France, Holland, Italy, Spain, Switzerland.
8.0 p.m.	Austria, Belgium, Bulgaria, Czechoslovakia, Danzig, Denmark, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Norway, Poland, Russia, Spain, Sweden, Switzerland, Turkey, Yugoslavia.

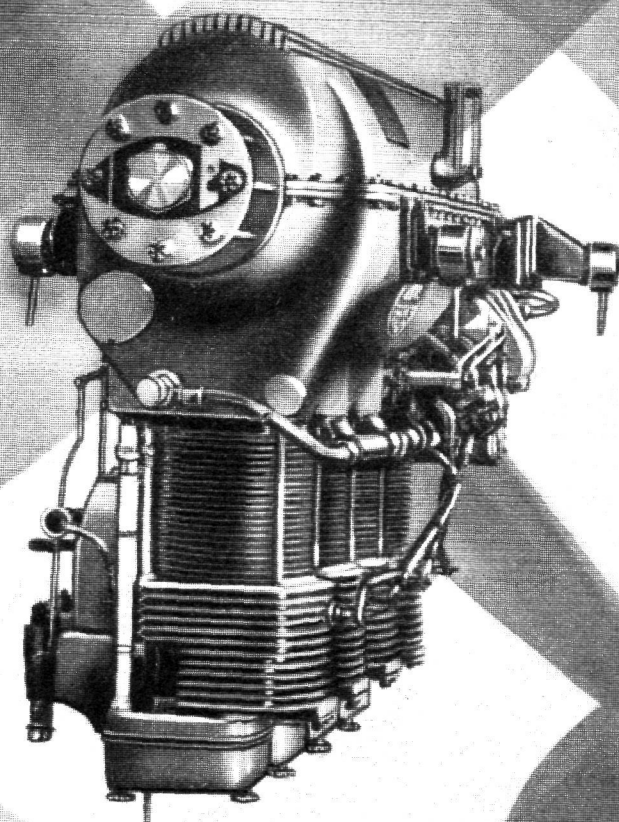
Elsewhere, the latest times of posting will be correspondingly earlier.

As from September 6, the latest time of posting air mail correspondence for North Borneo, Brunei, Sarawak, Dutch East Indies, Siam, Straits Settlements and Malay States in the air mail letter-box outside the General Post Office, London, will be 11.0 a.m. on Wednesdays.

The latest time of posting air parcels for Denmark, Norway and Sweden at the General Post Office, London, will be 9.0 p.m. on weekdays (Saturdays 8.0 p.m.) on and after August 31.



THE HULL-GRIMSBY AIR FERRY: A snap of the Blackburn "Segrave" monoplane, operated by East Yorkshire Motor Services, Ltd., and North Sea, Aerial & General Transport, Ltd., on the Hull-Grimsby air ferry, flying over Hull Docks.



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2. Always check the cowl for security before starting the engine.

3. To prevent airlock after cleaning petrol filter, disconnect feed pipe at carburettor and reconnect with the petrol turned on.

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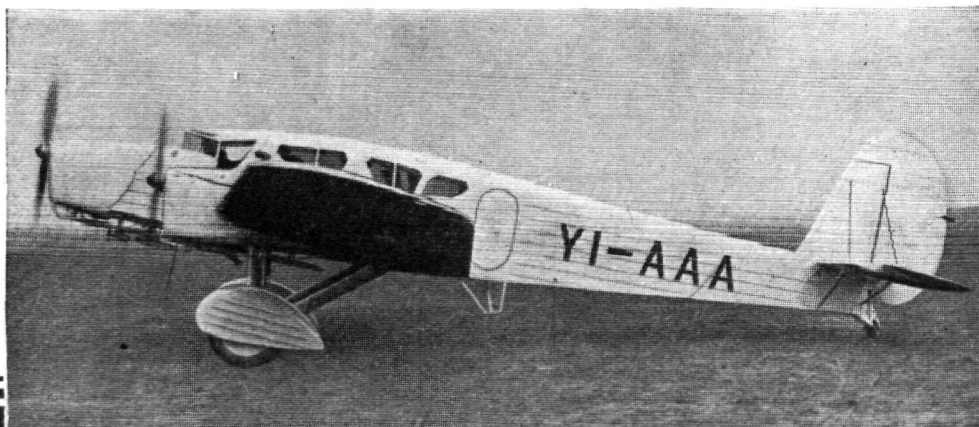
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# From the Clubs

## AIR TOUR OF HOLLAND

THE Netherland Committee for Air-Tourism (or Commissie voor Luchttoerisme van de Koninklijke Vereeniging voor Luchtvaart, as it is known in Holland), in co-operation with the Ministry of Defence, the Royal Dutch Air Lines (K.L.M.), and private flying clubs, held its second air-tour of Holland on August 25 and 26. The first tour took place in April of last year, and the event bids fair to become an annual feature of Dutch aviation. Plans are already in hand for next year's tour, to which it is hoped to give an international character by inviting foreign representatives to participate.

This year thirty-two machines took part. Military aviation was represented by eleven fighter-planes of the Dutch Air Force, and the commercial side by four K.L.M. passenger planes. The remainder of the "caravan"—as it has come to be known in Holland—consisted of seventeen private machines recruited from the principal flying clubs.

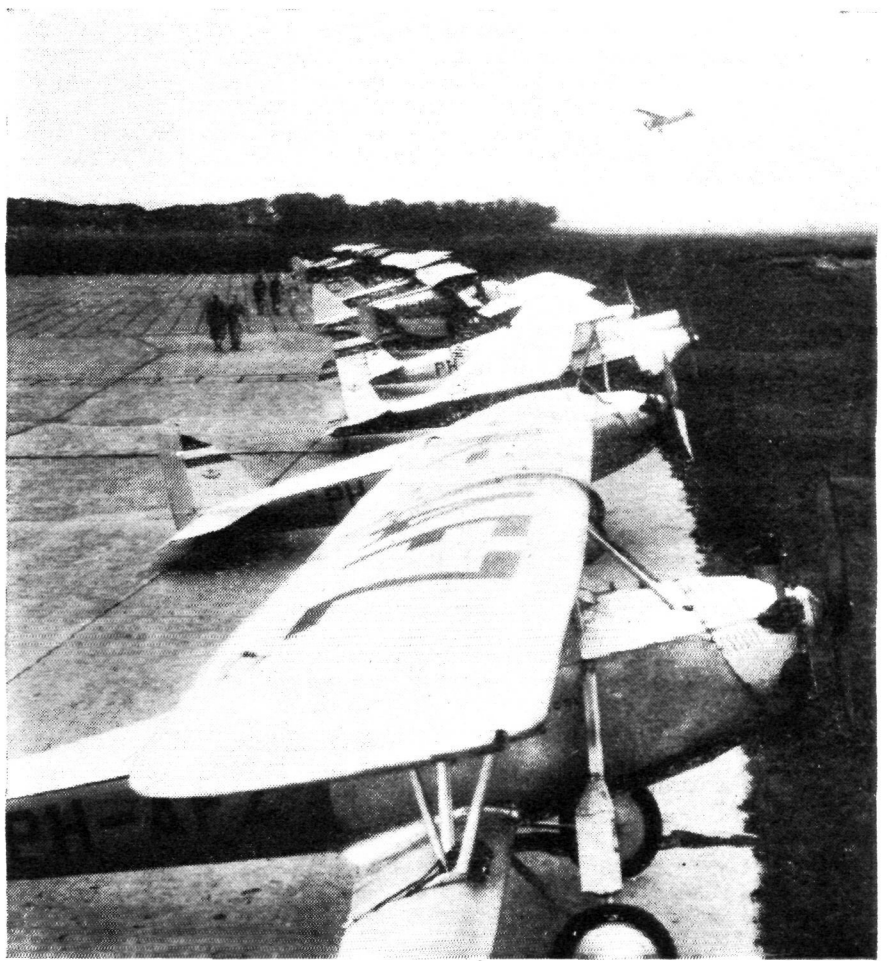
Among those who took part in the tour were Baron Krayenhof, chairman of the Committee for Air-Tourism; Mr. C. Kolff, chairman of the Rotterdam Aero Club; Mr. W. N. F. Van Deventer, director of the Tourist Information Bureau, together with prominent officials of the K.L.M. and the National Aeronautical School.

The start was made from the Waalhaven aerodrome, Rotterdam, at 9 o'clock on the morning of Friday, August 25. Before setting out the participants signed the "Golden Book," in which will be kept the record of this and future tours, and which is to be illustrated with photographs taken *en route*. The company also sent a telegram of congratulation to the Queen of Holland.

The first day's flight covered a distance of some 350 miles over the Northern Provinces of Holland, Friesland and Groningen to the town of Enschede near the German frontier. The tourists alighted three times on the way—at Amsterdam, Den Helder and Groningen—and proceeding by easy stages arrived at the Twente aerodrome at Enschede at half-past five. Apart from some patches of mist near the coast, the weather was excellent, and the thousands of spectators had good views of the caravan as it passed. One machine was forced by engine trouble to abandon the flight and returned to Rotterdam; for some time fears were entertained for its safety, as the pilot neglected to notify the authorities on his arrival. The company passed the night at Enschede as guests of the local aero club.

### BROOKLANDS

Flying times for the week totalled 65 hr. dual and 52 hr. solo. Messrs. Robinson, Vokes, Jones and Lewis have qualified for "A" licences, and Mr. P. Stevens has completed his 100 hr. for a "B" licence, he shortly leaving for the United States. New members of the Club include Messrs. V. G. Gryllis, Graham, L. D. Hill and Scriven. Reading Club have challenged Brooklands to a "Dawn Patrol" on September 17; all those who desire to take part should send in their names to the Secretary. The following little story will be found amusing. Early in the week two very small and rather dirty boys arrived at the aerodrome and demanded six-pennyworth of taxiing. Mr. Lowdell was scratching his head in deep cogitation



AIR TOUR OF HOLLAND: The start from the Waalhaven aerodrome, Rotterdam. The first machine can be seen in the air.

The start of the second day's flight was delayed for nearly two hours on account of heavy mist, and as a result some of the slower machines flew direct to Flushing, while the remainder carried out the programme by alighting at Eindhoven. By 2 o'clock all had arrived at Flushing, where lunch was taken at the hotel "Britannia." Between 3.30 and 4.0 the caravan set out on its last lap, and by 6 o'clock the last machine had come to rest on the broad meadow of the Waalhaven aerodrome.

Apart from the defect which, as mentioned above, caused one of the machines to abandon the flight, and a forced landing by another, which was, however, able to resume shortly after, the caravan accomplished its 630-mile flight without incident. In a country which is at present suffering from an alarming increase in road-accidents, this demonstration of the ease and safety of air-travel cannot fail to produce its effect in making Holland, already one of the most "air-minded" countries in Europe, even more enthusiastic in this respect.

when one of the boys further explained that he understood the Club had a taxi service to any part of the country for 6d. a mile, and this included taxiing along the ground at the same rate. Mr. Lowdell's amusement was so great, and no doubt his admiration at the boy's nerve, that he promptly put them in one of the club's machines and gave them a short flip.

### LONDON AEROPLANE CLUB

"A" licences have been taken by Messrs. K. Hensman, F. H. Matusch and M. G. Werthein. Mr. H. E. Stonham did a first solo, and Mr. G. Pound did a solo flight, his first since 1918. Among new members the Club wish to welcome Messrs. H. Pound, W. A. Ginger, Mr. and Mrs. A. Batten and Mr. and Mrs. G. Phillips.

## HANWORTH (N.F.S.)

Miss Delphine Reynolds, accompanied by Mr. Rolf von Bahr, left Hanworth in her "Redwing" on Thursday, August 31. He is qualifying for a "B" licence and will do much of the flying on the trip. On the same day the Master of Sempill left Hanworth in his "Puss Moth" for Friedrichshafen to see Dr. Eckener. He is proceeding to Salzburg and Gastein to attend the Austrian Aero Club rally. It is regretted that the *Graf Zeppelin* will be too busy to visit Hanworth this year. Flying hours for the week totalled 90, a first solo being done by Mr. Heathcote, and Miss Pritchard successfully carried out tests for an "A" licence. Cross-country flights included Mr. Kendall to Troon and return, Mr. Kirwan to Lympe, Hamble, and return and to Shoreham, Mr. Moore and Mr. von Bahr to Bournemouth, Lt. Sears to Hamble and Miss Pritchard to Manchester. Lord Carlow visited the Club during the week and did 3 hours' flying. During the month of August 377 hr. have been flown on Club aircraft. This is an average of 12 hr. a day, which is very creditable indeed.

## GRAVESEND SCHOOL OF FLYING

Flying has been very popular lately. Mr. Carney, one of the winners of the *Daily Express* free flying scholarship, has started instructional flying, and is making rapid progress. Many members have returned from their holidays, and the flying hours have consequently increased. Air taxi work has been carried out to Manchester, Birmingham, Le Touquet, Southend, Eastchurch, and Croydon. The first general meeting of the Gravesend Aerodrome Club since Mr. Spencer first became Secretary was held. Mr. F. S. Short, of Short Bros., was elected Chairman, and Messrs. T. B. MacLean and F. W. Humphrey were elected members of the Committee. Several members of the Club have paid visits by air to Southend, and have much appreciated the welcome they received.

## MAIDSTONE AERO CLUB

Maidstone Flying School have not been able to carry out any flying during the past week owing to the machine undergoing an overhaul for C. of A., but navigation classes have been carried on in the meantime. The Aero Club held their monthly "At Home" and special gala dance on Saturday, September 2, which was a great success and very well supported. The Club have decided to hold a similar dance on October 1.

## CINQUE PORTS FLYING CLUB AT LYMPNE

Now that the Club have recovered from the shock of their two instructors gaining first and second place in the race for the Folkestone Aero Trophy, work is once again going ahead. During the week "A" licences have been granted to Miss F. E. Malden, Miss Tailyour, Messrs. Bickersteth and Bernard Rubin. New pupils include Messrs. Allen, Paterson, Harroway, Hayward, Metherell, Rubin, Andrews, Brown, Ruscoe and Miss Le Mar.

## READING AEROPLANE CLUB

Flying time for the week totalled 46 hr., there being 20 pupils in training, a new member being Mr. C. H.

Debenham. Count Hamilton has qualified for his "A" licence, and Mr. G. H. Woodhouse, who is only just 15 years of age, has done his first solo. The Club thinks it has the right to say he is the youngest soloist in the country. F/O. J. F. Lawn, the Chief Instructor, flew over to the Air Display in Jersey, and gave an aerobatic display. The Club has challenged all-comers to a "Dawn Patrol" between 8 a.m. and 8.30 on Sunday, September 17. It is hoped that any club which has not yet received notification of this event and would like to join in the attack will write to the Secretary for the rules.

## NORFOLK AND NORWICH AERO CLUB

The aerial garden party was held in Norwich in perfect weather on Saturday, September 2. The event was well attended and brought to the aerodrome quite a number of civil aircraft, which included Capt. A. N. Diamant on a "Puss Moth," Dr. D. Gregory, also on a "Puss Moth," and Messrs. R. R. Bentley and Scholes, both on "Puss Moths," Brian Allen and S. L. Turner on an Avro "Cadet," G. Surtees, J. Whitome on a "Gipsy Moth," H. Henshaw on a Comper "Swift," C. O. Powis on a Miles "Hawk," A. G. Barratt and F/O. S. S. Barratt on an Avro "Lynx," Flt. Lt. Fogarty, F/O. N. Nobleson, also Lady Hare and Miss Nancy Bagge on their Klemm. The programme consisted mostly of ground events, but there was a bomb-dropping competition won by Lady Hare. Other events included a clay pigeon shoot, an archery competition, a reversing race for cars and a ladies' egg and spoon race. Mr. Harold Birchall is to be congratulated on a very successful day's programme, which culminated in a dance at the new clubhouse.

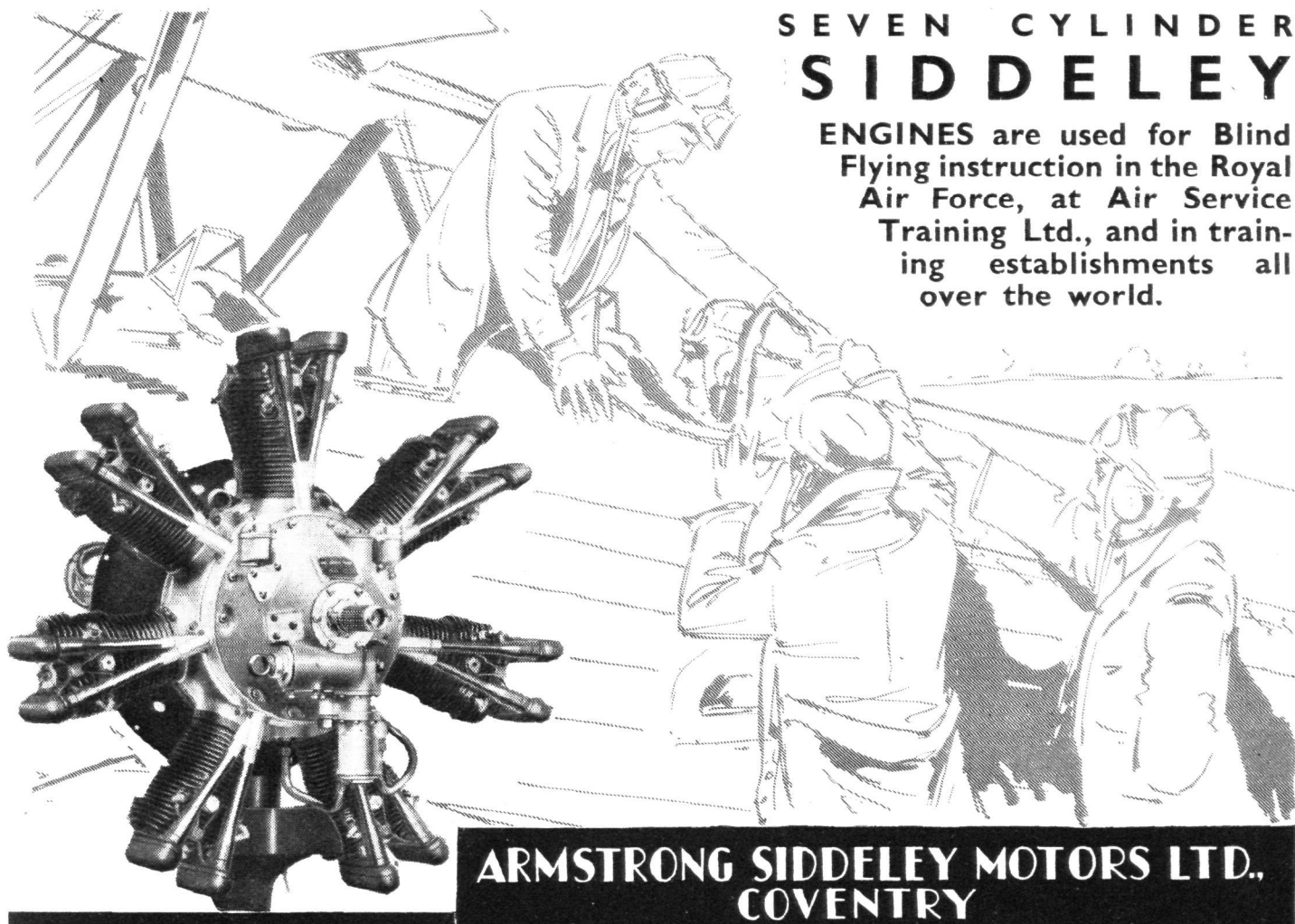
Messrs. J. B. Purefoy and F. Dawson Paul did first solos during the week, and the following received instruction:—Messrs. F. W. Rusmer, P. Britton, Crighton-Boxer, F. Paul, J. B. Purefoy and Capt. D. P. O'Kelly, and soloists were Messrs. A. J. S. Morris, F. Paul, J. B. Purefoy, A. Kerby, H. Birchall, S. Hansel, A. A. Rice, H. Stringer, A. J. Sayer, W. M. R. Burney, Capt. J. T. Paul and Miss Hudd. The competition for the Noel-Hill Cup will take place on Sunday, September 10; this is a handicap cross-country competition open to all pilots who have passed their forced-landing and cross-country tests.

## BRISTOL AND WESSEX AEROPLANE CLUB

An interesting programme has been arranged for the Bristol Airport garden party on Saturday, September 16, which will include flying competitions for both Club members and visiting private owners. Messrs. T. W. Campbell and W. L. B. Palmer, of the Bristol Aeroplane Company's Flying School, will give an exhibition on "Tiger Moths." The Bristol and West Model Aero Club will demonstrate a number of models, the majority of which are designed and constructed by members of the Club. Visitors arriving by air are invited to lunch as the guests of the Club and to remain for tea and the evening dance. Nine new members joined the Club during August. The early Sunday morning visits to other aerodromes are still very popular. Hatfield and Portsmouth have both been visited lately.



THE KUALA LUMPUR FLYING CLUB: Our picture shows the recently erected Club hangar with three of the Club "Moths," together with another "Moth" and Comper "Swift," privately owned respectively by Dr. (Miss) Robertson and Mr. Birch, both members of the Club.



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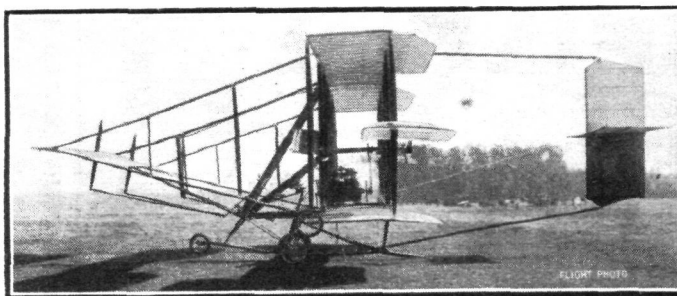
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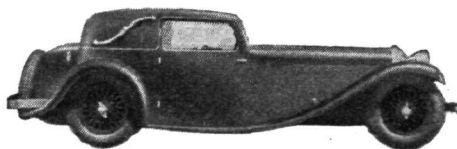
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# HENLYS

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**THE LINCOLNSHIRE AERO CLUB**

The hours flown on Club machines during the period August 13-27 totalled 81, new members being Messrs. R. Dix and L. R. Barcroft.

The Club's flying hours for the week ending Saturday, September 2, totalled 33 hr. There are 14 pupils under instruction, first soloist having been done by Mrs. McDougall and Mr. R. Dix. The number of passengers on the Humber Air Ferry was 122. Mr. Micklemore has been appointed assistant instructor and reserve pilot for the Humber Air Ferry. Air trips were done to Scarborough, London and Brough, and a Club machine has been engaged in aerial photography over Hull, Grimsby, Lincoln and Newark. Visitors by air included Mr. Shaw from Skegness, and on Saturday, September 2, Mrs. Jack Hylton, who was paying a visit to Grimsby with her band, was entertained by the Club, and later made a flight to Hull, returning to Waltham aerodrome by way of Cleethorpes.

**SKEGNESS AND EAST LINCOLNSHIRE AERO CLUB**

During the last fortnight 30 hr. dual and 26 hr. solo flying were carried out, there being one first soloist, Mr. E. Broughton. Taxi trips were carried out in the "Puss Moth" to Folkestone, Stevenon, near Glasgow, and Castle Bromwich. The Nottingham-Skegness service has been stopped until next spring, when it is hoped to continue it with a larger machine; figures for the past fortnight were to Skegness 17 trips and to Nottingham 22 trips. The fine weather has resulted in the "Puss Moth" and the "Fox Moth" being kept very busy joy-riding. Among the visitors was a formation of female pilots, which included Mrs. Battye and Miss Giles.

**LANCASHIRE AERO CLUB**

The good weather which has been experienced at Woodford lately has not only resulted in a pleasant increase in the quantity of flying but also in the quality. Capt. Ulm recently led a formation of club machines on a visit to the Manchester airport, where Mr. Muntz, of Airwork, Ltd., received them. Capt. Ulm's membership of the Club continues a tradition of well-known Australian pilots who have visited Woodford from time to time, Sir Charles Kingsford-Smith and Mr. Bert Hinkler being two others. Lord Wakefield's gift "Cadet" appears to be spending as much of its time upside down as in the normal flying position, owing to a sudden desire on the part of many members to view the world from an inverted position.

The Lancashire Aero Club has come to an arrangement with the British Red Cross Society by which the Club takes over their Red Cross De Soutter and maintains it ready for use in case of emergency. In return for this the Club is granted use of the aircraft for normal club purposes and there is much enthusiasm amongst the members for this variation in the fleet. For the benefit of members living on the north side of Manchester, the Lancashire Aero Club has, for the time being, placed two machines at Barton aerodrome, where, by an arrangement with Messrs. Airwork Limited, instruction and other flying facilities are available. On Saturday, September 9, landing competitions, garden party and evening festivities will take place at Woodford, to which all flying folk are cordially invited. Amongst the visitors at Woodford during the past week were the Duchess of Bedford and party, and J. G. Peel, Esq., J.P., of National Flying Services.

**CARDIFF AEROPLANE CLUB**

Flying hours for the week ending August 27 totalled 22 hr. 55 min. dual and 7 hr. solo. A flying member is Mr. R. R. Smith. The total hours for the following week (to September 3) were 9 hr. 35 min. dual, 5 hr. 55 min. solo, and 30 min. tests. The total flying time for August was 154 hr. 20 min. Miss Cynthia Free-Armstrong is a new member.

**BERKS, BUCKS AND OXON AERO CLUB**

Flying hours for the month of August totalled 49 hr. 45 min. Cross-country flights were done by Messrs. Litchfield-Speer to Portsmouth, H. de C. Woodhouse to Shoreham and Cambridge, Medlam to Shoreham and Field-Richards to Brooklands. Col. Hesketh has had dual from Mr. Milne. The D.H. "Dragon" *Lucretius*, piloted by Capt. Pennington, visited the Club before flying Mr. Gordon Richards and other jockeys to Ostend on Saturday, August 26.

**LEICESTERSHIRE AERO CLUB**

During August 102 hr. 50 min. flying were done by Club members. Of this 24 hr. 45 min. were flown by members who made an aerial tour during the Club's holiday. Cross-country flights to other aerodromes numbered 37. On the night of August 2 and 3 five pilot members took advantage of Mr. Lindsay Everard's offer of night flying instruction at Ratcliffe aerodrome, which

was much appreciated. On Saturday, August 26, the message dropping competition was won by Mr. H. P. Lavender with an average of 7 ft. 5½ in. from the pin. Messrs. C. H. Briggs and R. C. Winn were second and third respectively. On Sunday, August 27, a few members attended Divine Service, lunch and Garden Party at Ratcliffe aerodrome. New pupils are Messrs. N. F. Eagleton and C. E. Moore, first soloists F. Staples and G. Clark, and an "A" licence has been obtained by Mr. J. E. Arland.

**YORKSHIRE AEROPLANE CLUB**

The week's total of flying hours is approximately 55, which includes flying done abroad by two member private owners who are on a holiday in Austria. During the week two flights were made on Club machines to Hanworth and return.

**THE DE HAVILLAND SCHOOL OF FLYING, HATFIELD, HERTS.**

Flying time for the past two weeks was 374 hr. A formation of three "Moths," G-AAIN, G-ADWM and G-AASR, in charge of Capt. Hall, arrived last Sunday morning for breakfast at 8.30 a.m. "Got it." The chief instructor, Maj. Kondor, and chief engineer, Maj. Okumono, Japanese Civilian Schools, visited the school and inspected the methods of training, etc.

The Stage and Screen Aero and Sporting Club's Mounted Gymkhana, Fair and Garden Party, on Friday, September 29, will be supported by a galaxy of stage celebrities headed by the chairman, Sir Gerald de Maurier, and also by well-known film artists.

F/O. G. S. King, who until recently was instructing at No. 4, F.T.S., Egypt, has joined the D.H. staff of instructors, which now number six. Extension to existing premises and the aerodrome are proceeding in readiness to accommodate the London Aeroplane Club at the end of September.

**BENGAL FLYING CLUB**

The month of July saw great activity in the Bengal Flying Club. Messrs. D. G. Lewis and A. Hay Taylor started instruction, and J. C. Woollard, of the Indian Air Survey & Transport, Ltd., W. C. Tomlin, Ground Engineer of the Club, and B. N. Bhattacharjee are to be congratulated on first solos; Mr. Woollard has also passed all tests for his "A" licence. Cross-country flights were done by Messrs. R. Pal Choudhuri and B. L. Lohia, who flew to Maheshganj and return on Friday, July 29. The Director of Civil Aviation, Capt. Tymms, used a Club machine to fly to Allahabad; he landed at Asansol, Gaya, and Benares to inspect landing grounds. Mr. Sang Kang, a Chinese aviator, who arrived on his Klemm at Dum Dum on July 8, after being trained in Germany, was afforded quite a reception. After some small repairs had been done to his machine, he proceeded to Rangoon. On July 19 Mr. J. Wood arrived from Akyab, where he had been delayed by bad weather. Great interest has been caused by the "Atalanta" class of machines which are being used on the Indian trans-Continental service, which arrive every Saturday and depart the following Tuesday. The total membership of the Club is 342, and the machines in use 3. Flying times for the month totalled 39 hr. 10 min. dual and 98 hr. 30 min. solo.

**MISR-AIRWORK IN EGYPT**

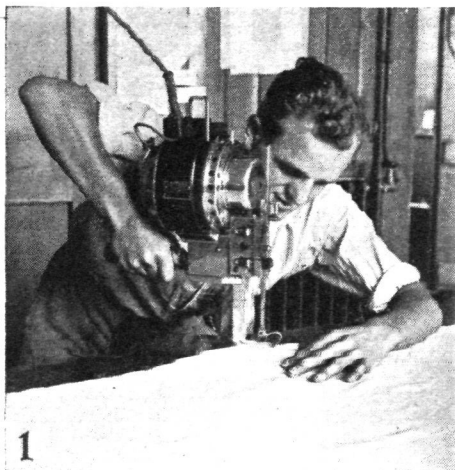
The school of flying operated by Misr-Airwork at Alexandria has made an excellent start. It is stated that at the time of writing this report 25 hours' flying time for the week had been attained, and as a result of these activities a new "Gipsy I Moth" has been ordered, which will bring the Misr-Airwork instructional establishment up to five machines.

Seventy-five joy-ride passengers were carried at Ras-El-Bar, Cairo, on Sunday, August 20, by a Misr-Airwork aeroplane piloted by Mohammed Sidky Effendi. The finals of a landing competition at the flying school at Cairo have been arranged for September 17. Kamal Eloui Bey, Managing Director of Misr-Airwork, is shortly flying to Palestine to investigate flying conditions for their proposed operations in that country. A display of night flying will be held at Almaza airport on September 6 from 8 p.m. till midnight.

Mlle. Lotfia El Madi succeeded last week in flying solo, a feat which has not until now been achieved by any Egyptian lady. She is an enthusiastic and willing pupil, and thoroughly deserves the honour of being the first of her sex in Egypt to pilot herself unaccompanied by man. Misr-Airwork are proud of adding this feat to their records, for they also claim to surpass most European flying schools in having trained their youngest and oldest pilots simultaneously; the one was only 17, and the other 67 when they obtained their licences.



## MANUFACTURING IRVIN PARACHUTES FOR THE R.A.F.



**T**HE number of lives saved by parachutes is by now very large, and the parachute has become such a commonplace part of aircraft equipment that one is apt merely to take it for granted without giving a thought to the care taken during its manufacture, or to the exacting requirements under which the parachute is made. We approached Irving Air Chute of Great Britain, Ltd., for permission to photograph the manufacturing and testing methods in force at their works at Letchworth, and this permission was readily granted. The result is shown in the accompanying "Flight" photographs

Fig. 1:—Cutting silk panels with electric cutter to a pattern lined out on the table. Ninety-six panels are required for each parachute. The silk is English manufacture. Enough is cut for 13 chutes.

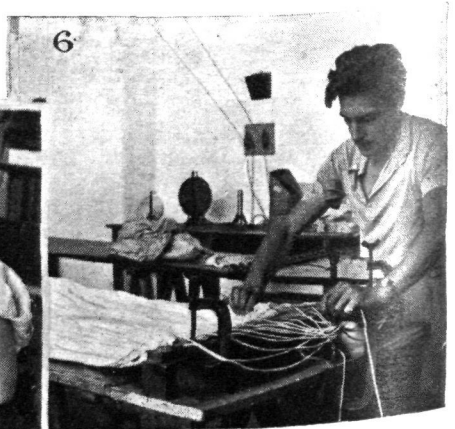
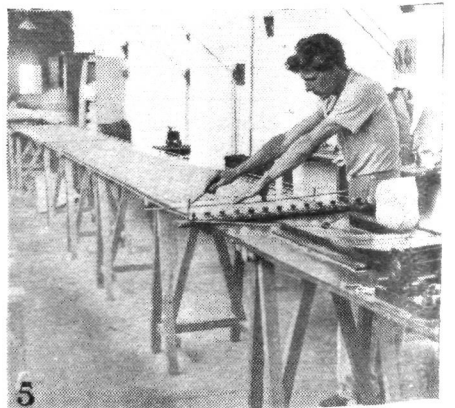
Fig. 2:—Sewing the panels together with silk thread in electrically-driven Singer machines. Twenty-four sections comprise a canopy, each containing four panels, the latter being of different size and shape. Sixty yards of silk are required for one canopy. Note the bobbins of silk thread feeding the machines.



**THE FINISHED PRODUCT :** On the left a number of pilots and observers wearing their Irvin parachutes, and on the right two parachutists making a descent. (FLIGHT Photos.)

Fig. 3:—Making the Pilot Chute, which is attached to the parachute apex. Inserting the spring steel frame in the pockets of the silk and tacking the legs round the base of the spring. Pilot Chute is 30 in. dia., is packed last, and emerges first.

Fig. 4:—Sewing the cotton canvas container which carries the canopy. When cut to pattern it resembles an open envelope, and contains simple





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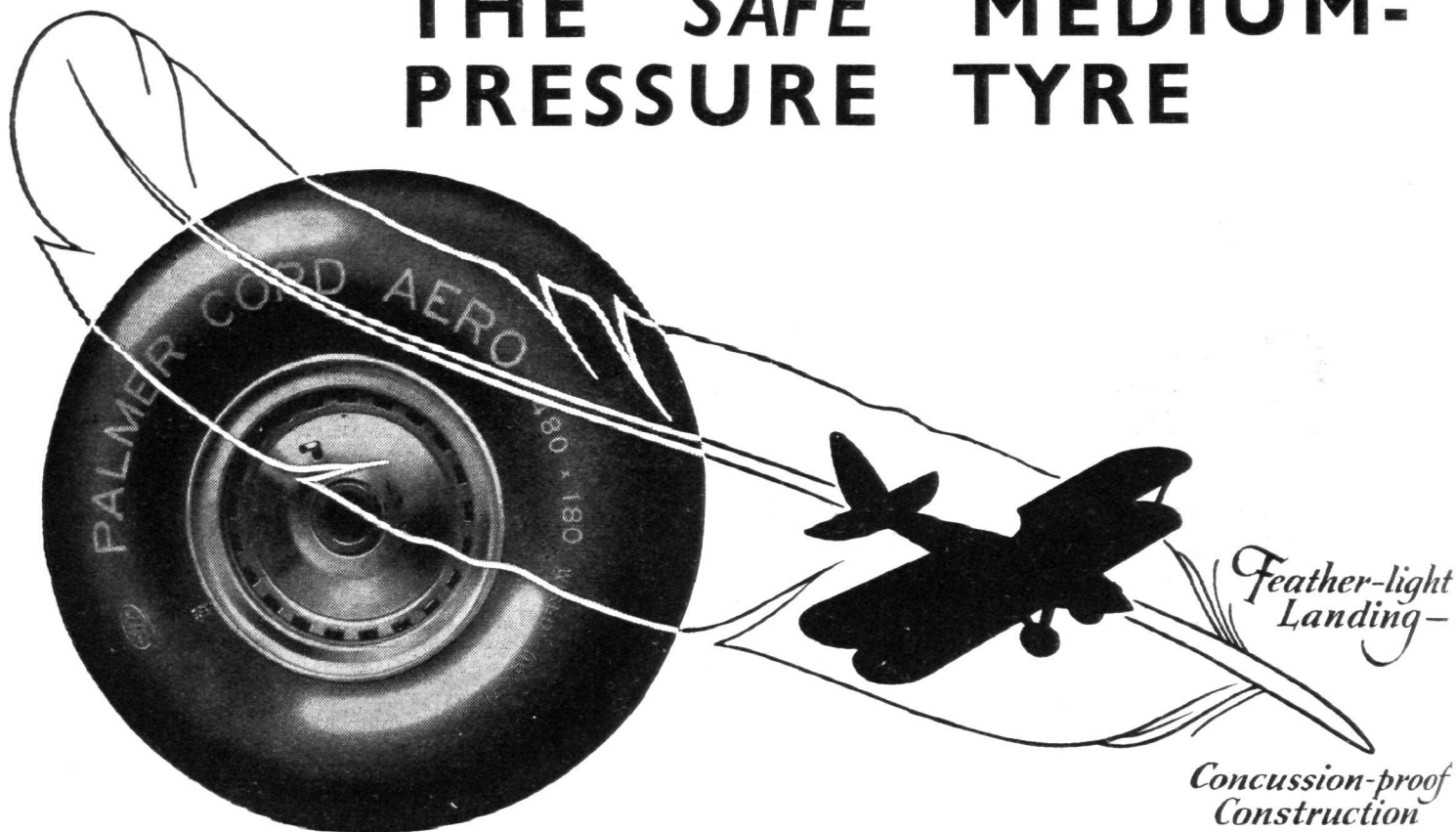
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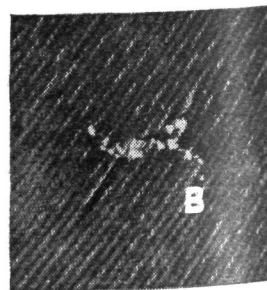
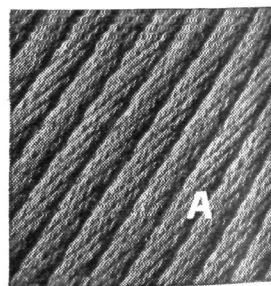
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A shows a section of a flexible true-cord Palmer casing which was subjected to the same strain without the slightest damage to the casing.



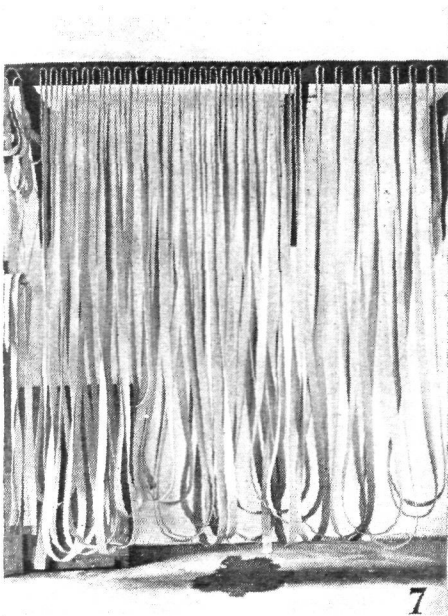
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tape loops to hold the shroudlines in position. It is made rigid where it forms the base of the pack by the insertion of a thin frame.

*Fig. 5:*—Stretching and marking the silk shroudlines on a marking machine, to ensure that the twelve shroudlines for each parachute are of the same tension and length. Each chute absorbs one complete ball of silk cord (as seen on the table), which contains 230 yards.

*Fig. 6:* — Threading shroudlines through the main seams of the canopy, making the network of cord an inherent part of the canopy structure. Twelve cords are slotted through, giving the effect of twenty-four suspension lines from the canopy hem.

*Fig. 7:*—Webbing for the harness drying after being soaked to shrink it,



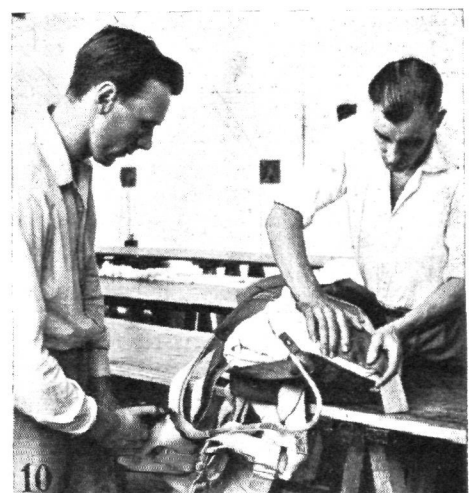
so that no shrinkage takes place when the parachute is in use. Specified tensile strength of webbing is 2,800 lb.

*Fig. 8:*—Sewing harness where the snap hook is attached, the latter being one of the two connecting points for the Irvin Quick Connector. Snap hooks are now made of bronze, spec. D.T.D.197 (max. stress not less than 45 tons per sq. in.).



*Fig. 9:*—Tacking the Dunlop Latex Upholstery Cushion to the back of the parachute pack. A touch of comfort.

*Fig. 10:*—A packing stage. Sides of the container being pulled over, the canopy having been folded inside in a neat pyramidal pile on top of the folded shroudlines. Two experienced fitters will pack a standard parachute in about twelve minutes. Note the Quick Release fitting amidst the harness and the rip-cord housing containing the rip cord running from the release ring in the fitter's right hand.

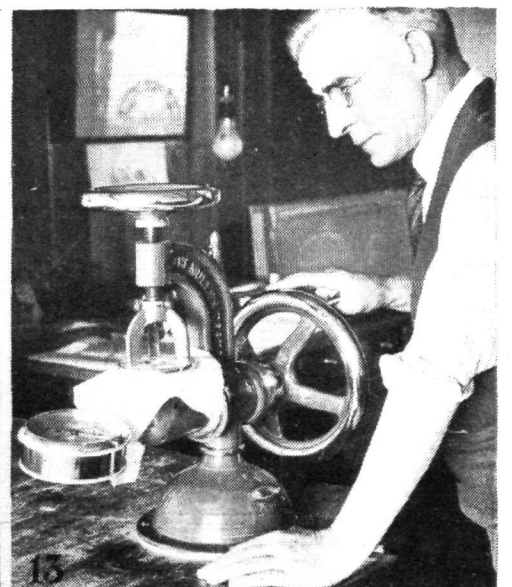
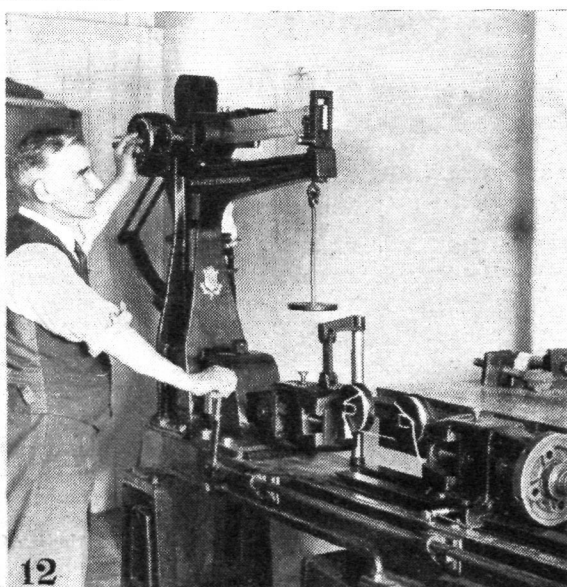


*Fig. 11:*—Testing the tensile strength of the silk, which must be 40 lb. per inch both in the warp and weft. This machine is hand-operated, and is one of several employed to test all the material used.

*Fig. 12:*—Testing a silk shroudline for tensile strength, which must be

400 lb., this machine being electrically driven. Webbing, "D" rings, snap hooks and rip cords are also tested for tensile strength in this machine.

*Fig. 13:*—A bursting test of silk. A rubber diaphragm under hydraulic pressure is the force employed; hand operating with the wheel working a plunger, which compresses the liquid (glycerine) against the diaphragm. The specified strength is 85 lb. per sq. in.





# Airport News

## CROYDON

**A**N air parcel, with a remarkable travel record, passed through the airport of London recently *en route* for Africa. It consisted of a book consigned by H.E. the Governor-General of British Columbia to H.E. the Governor-General of Kenya Colony. The parcel left Vancouver by train on August 23 for Seattle, and from there was sent by air to New York. On the following day, August 25, it sailed aboard the s.s. *Europa*, and at midnight, August 28/29, was transferred to the Lufthansa catapult plane D. 2244 when 785 sea miles from Southampton. D. 2244 landed Southampton at 0805 and took off again at 0925 for Bremerhaven, where it arrived 1410. Incidentally, all mails were delivered to the Post Office the same afternoon, whereas the *Europa* only berthed at Southampton at 12 noon on August 30. The parcel for Kenya Colony was brought by road from Southampton and caught the Imperial Airways Empire Service at Croydon on August 30. It was delivered at Nairobi on September 5. The ordinary land and sea journey from Vancouver to Nairobi would take about a month.

On Tuesday night of last week a number of experimental flights were made in a service "Atlas" in order to test a new type of navigation light. The Air Ministry trimotor "Fokker" was in attendance as an observation machine. Maj. Mealing and Maj. Richard (Chief Aerodrome Officer) were present.

Following my remark last week about a well-known airport dog, my attention has been drawn to the activities of "Kiltie," the Cairn terrier belonging to Capt. Penny, of Surrey Flying Services, Ltd. "Kiltie" almost always accompanies her master on joy-rides, to the admiration of the passengers.

Surrey Flying Services have found an ingenious method of advertising, having taken the space on the back of all tickets issued to the public by the official airport guide. The advertisement takes the form of a rhyme, urging one to fly by S.F.S.

New autumn time-tables have been issued by all the companies, and a number of curtailments and alterations of services are noticed. In order to make the most of the shorter days, many services now start round about 9 a.m. At that time, or a little earlier or later, there are machines on the tarmac of "Imperial Airways, Ltd.," "K.L.M.," "Sabena," "Lufthansa," and "Air France." It is at such times that really well-organised ground traffic control is of vital importance.

I recently met a passenger who had just returned from one of the "Imperial Airways" Sunday flights to Le Touquet and back. The return fare is only £3 15s., which includes an excellent dinner in the air on the way back, and also a ticket to the Casino and tea there. You leave the airport at 11 a.m. and arrive back at 8.50 p.m. The passenger was particularly enthusiastic about the dinner served on board. He was glad, he said, that Imperial Airways, Ltd., had broken away from the tradition of the British railway companies, and that, despite fewer facilities than on a train, the air meal was not only chosen with skill but served in an appetising manner. He was full of praise for the service of the stewards, and mentioned, in passing, that the wine-list was worthy of attention. The menu served on *Heracles* on the occasion in question, was iced tomato juice, Conteloupe melon, egg mayonnaise, cold roast chicken and ham, green salad, potato salad, cherries and cream, fresh fruit, cheese, coffee.

As an illustration of the popularity of long-distance travel, the passenger list of the K.L.M. 7 a.m. departure from the airport on Thursday, August 31, is interesting. Besides passengers for Holland, there were travellers booked to Copenhagen, Prague, Vienna, Berlin, Gothenberg, Cairo, and Karachi. Except the two last-named places, all were single day flights. All previous cross-Channel passenger records were broken during August, 1933. No fewer than 12,035 passengers passed through the airport, nearly 1,000 more than in the previous record month, July, 1933.

Sir Pierre and Lady van Ryneveld left Croydon for Johannesburg by Imperial Airways Empire Service during last week. "A. VIATOR."

## FROM HESTON

**A**VISITOR to Heston on Thursday, August 31, was Mr. Walter Kaye, whose little car, almost unrecognisable beneath the painted record of its travels, tells a thrilling story of his 14,000-mile African journey with Mr. A. C. Gilg. Mr. Kaye is a pilot and the owner of a "Puss Moth," and the investigation of flying and aerodrome conditions was one of the objects of their trip through France, Spain, the Sahara, West Africa and Central Africa, which only started on February 1. Mr. Kaye expressed his pleasure at witnessing once again the activities of a progressive airport, after the many little landing grounds he has visited which lead a plucky but obscure existence in the heart of Africa.

Early in the week, Warner Brothers First National Productions put in two days' hot work at Heston on their new production, "The Blue Army." To give an account of what took place would be to steal the thrills from the thousands of film fans who will eventually see the picture. It is sufficient to say that the doings of the Italian Air Force are well and truly represented, for an Italian member of their staff, already well versed in aviation, has put in a good deal of research on their uniforms and on their work.

On Thursday, August 31, the directors of Spartan Aircraft, Ltd., visited Heston in the new "Cruiser" which has been purchased by the Czechoslovakian "Aeropot" for airline operation, through Mr. Mapplebeck, the Spartan and Saunders-Roe agent in Belgrade. The machine is in general similar to those now in use on the Isle of Wight service from Heston, with the exception of slight modifications in the interior of the cabin, which is arranged for eight people, with a special compartment for luggage.

The British Air Navigation Company made seven trips to Le Touquet and two to Deauville during the week-end of August 26. Mr. and Mrs. Philip Kindersley were among their passengers to Le Touquet. They also carried H. E. Nahet Pasha, a nephew of the King of Egypt, to Penzance, and Prince Ali Khan, Lord Carnarvon, and Sir Hugo Cunliffe-Owen to the York races. On Wednesday, August 30, Wrightson & Pearce took a prominent member of the L.C.C. with a party to Aberystwyth for the dual purpose of opening an agricultural show and considering the prospects for operating an airline to that town.

Two hundred and seventeen machines cleared Customs at Heston during the month of August, of which 63 clearances took place during the last week alone—an exceptionally high weekly figure. School flying hours show a 20 per cent. increase on the figures for last August.

## An Aerodrome for Redhill

BRITISH AIR TRANSPORT, LTD., the operating firm which runs an air taxi service at Croydon and a flying school at Addington, Surrey, is making an endeavour to establish an aerodrome at South Nutfield, approximately two miles south-east of Redhill. The situation is peculiarly good for these pilots who find, as they so often do when flying from the coast to Croydon, that the clouds are down on the hills above Redhill and that they cannot get through without undue risk. The aerodrome is at the present time about 40/60 acres in extent, but five fields can easily be taken in, making the whole up to over one hundred acres. From the point of view of a flying club, the idea is good, and as an asset to the district its merits are undoubted to all those who can see ahead. Unfortunately the local authorities would seem to be against the scheme. This is a pity, because towns which do not make provision for an aerodrome in the very near future are certainly going to find themselves cut off from a great deal of trade-bringing traffic in the future. The position of this aerodrome makes it an ideal place for long distance air traffic to stop, when Croydon becomes unusable.

# THE ROYAL AIR FORCE

*London Gazette, August 29, 1933.*  
*General Duties Branch*

The following Pilot Officers are promoted to rank of Flying Officer:—  
D. W. Baird (April 9); T. F. U. Lang, R. S. Ryan, W. S. P. Simonds, A. P. S. Wills, G. P. Woodhouse (July 28); Hon. E. F. Ward, Hon. G. R. Ward (Aug. 11).

Wing Commdr. H. S. Powell, M.C., is restored to full pay from half pay (Aug. 20); Sqdn. Ldr. A. Durston, A.F.C., is placed on half-pay list, Scale A, from Aug. 27 to Aug. 31, inclusive; Flt. Lt. A. Jerrard, V.C., is placed on retired list on account of ill-health (Aug. 24).

The following Flying Officers are transferred to Reserve, Class A (Aug. 24):—  
W. S. C. Adams, R. A. Beynon, D. A. Craik, G. S. King, M. G. Parker, S. P. Richards.

Lt. L. J. S. Ede, R.N., Flying Officer, R.A.F., ceases to be attached to R.A.F. on return to naval duty (Aug. 7).

## ROYAL AIR FORCE RESERVE RESERVE OF AIR FORCE OFFICERS

*General Duties Branch*

J. D. Kirwan is granted a commn. as Pilot Officer on probation in Class AA (ii) (Aug. 16).

The following are granted commns. as Pilot Officers on probation in Class AA (ii) (Aug. 14):—H. Arnold, R. A. Atkinson, B. Ball, A. N. Bardolph,

## ROYAL AIR FORCE INTELLIGENCE

**Appointments.**—The following appointments in the Royal Air Force are notified:—

*General Duties Branch*

**Wing Commanders:** R. M. Drummond, D.S.O., O.B.E., M.C., to Air Ministry, Dept. of Air Member for Personnel (D. of T.), 18.8.33, for Air Staff duties vice Group-Capt. T. E. B. Howe, A.F.C. A. P. V. Daly, A.F.C., to No. 503 (County of Lincoln) (B.) Sqdn., Waddington, 23.8.33, to Command, vice Wing-Com. H. I. Hamner, D.F.C.

**Squadron Leaders:** P. D. Robertson, A.M., to R.A.F. Base, Calshot, 21.8.33, for Navigation duties, vice Sqdn.-Ldr. G. E. Godsave. C. B. Dalison, A.F.C., to No. 10 (B.) Sqdn., Boscombe Down, 28.8.33, for Flying duties, vice Sqdn.-Ldr. J. C. Brooks, D.S.C. G. A. H. Pidcock, to Aeroplane and Armament Experimental Estab., Martlesham Heath, 26.8.33, for Armament duties, vice Sqdn.-Ldr. C. Crawford. R. Young, to School of Army Co-operation, Old Sarum, 28.8.33, for Administrative duties, vice Sqdn.-Ldr. F. M. F. West, V.C., M.C. J. H. Butler, to No. 29 (B.) Sqdn., North Weald, 24.8.33, to Command, vice Sqdn.-Ldr. H. D. O'Neill, A.F.C.

**Flight Lieutenants:** F. D. Biggs, to No. 26 (A.C.) Sqdn., Catterick, 18.8.33. P. J. Hayes, M.B.E., A.F.C., to Reception Depot, West Drayton, 22.8.33. J. R. Jones, to Station H.Q., Northolt, 21.8.33. T. Humble, to No. 16 (A.C.) Sqdn., Old Sarum, 24.8.33. A. F. Hutton, to No. 13 (A.C.) Sqdn., Netheravon, 24.8.33. L. T. Pankhurst, to Station H.Q., Upavon, 22.8.33.

**Flying Officers:** F. Crump, to R.A.F. Base, Calshot, 21.8.33. B. D. Nicholas, to H.M.S. "Glorious," 18.8.33. D. H. F. Barnett, to Central Flying School, Wittering, 22.8.33. D. C. T. Bennett, to R.A.F. Base, Calshot, 14.8.33. G. F. Macpherson, to Central Flying School, Wittering, 22.8.33. R. Cleland, to No. 24 (Commn.) Sqdn., Hendon, 28.8.33.

**Pilot Officers:** M. A. Aylmer, to No. 17 (F.) Sqdn., Upavon; J. V. C. Badger, to No. 43 (F.) Sqdn., Tangmere; B. H. Becker, to No. 16 (A.C.) Sqdn., Old Sarum; A. F. R. Bennett, to No. 16 (A.C.) Sqdn., Old Sarum; A. C. P. Carver, to No. 43 (F.) Sqdn., Tangmere; B. A. Chacksfield, to No. 16 (A.C.) Sqdn., Old Sarum; W. D. Disbrey, to No. 3 (F.) Sqdn., Upavon; P. L. Donkin, to No. 16 (A.C.) Sqdn., Old Sarum; R. R. Fairweather, to No. 29 (F.) Sqdn., North Weald; A. D. Ferguson, to No. 111 (F.) Sqdn., Hornchurch; D. Finlay, to No. 41 (F.) Sqdn., Northolt; K. Gray, to No. 29 (F.) Sqdn., North Weald; G. N. Hancock, to No. 99 (B.) Sqdn., Upper Heyford; J. A. Hotham, to No. 16 (A.C.) Sqdn., Old Sarum; A. H. Jarand, to No. 7 (B.) Sqdn., Worthy Down; N. C. Jones, to No. 207 (B.) Sqdn., Bircham Newton; G. A. V. Knyvett, to No. 33 (B.) Sqdn., Bicester; L. G. Lewis, to No. 56 (F.) Sqdn., North Weald; W. B. Murray, to No. 16 (A.C.) Sqdn., Old Sarum; J. A. P. Owen, to No. 58 (B.) Sqdn., Worthy Down; G. E. Peacock, to No. 19 (F.) Sqdn., Duxford; C. F. Pearce, to No. 16 (A.C.) Sqdn., Old Sarum; D. H. Spencer, to No. 33 (B.) Sqdn., Bicester; K. A.

R. G. T. Cooke, R. B. Crow, S. C. Elworthy, K. T. Hall, A. T. Irvine, C. N. Kirkus, P. V. Mackinnon, C. E. Madge, R. T. S. Norwood, K. G. Seth-Smith, P. E. A. Talbot, R. C. Thorn, L. M.-S. Whetham.

The following are transferred from Class A to Class C:—Flight Lt. R. H. Stocken (Aug. 27); Flt. Lt. R. W. Reeve, D.F.C., M.M. (Aug. 28); F./O. J. R. Foster (Aug. 24).

F./O. E. P. Young is transferred from Class AA (ii) to Class C with effect from Dec. 2, 1932, and from Class C to Class AA (ii) with effect from Aug. 11; Flying Officer R. W. Burkitt resigns his commn. on appointment to a commn. in the Auxiliary Air Force (Aug. 28). The following Flying Officers relinquish their commns. on completion of service:—P. L. D. Teichman-Derville (June 25); G. H. Newberry (July 2); T. H. W. Beadle, F. G. Hill (July 16); T. D. Trouncer (July 23); H. Clive-Smith (July 25); M. G. B. Clark (Aug. 11).

## AUXILIARY AIR FORCE

*General Duties Branch*

No. 600 (CITY OF LONDON) (BOMBER) SQUADRON.—R. W. Birkitt is granted a commn. as Flying Officer (Aug. 28).

No. 603 (CITY OF EDINBURGH) (BOMBER) SQUADRON.—F. O. (Hon. Fit. Lt.) J. L. Jack, M.C., is confirmed in rank (Aug. 4).

Stewart, to No. 25 (F.) Sqdn., Hawkinge; H. R. Tidd, to No. 3 (F.) Sqdn., Upavon; I. H. D. Walker, to No. 58 (B.) Sqdn., Worthy Down; R. G. Watson, to No. 16 (A.C.) Sqdn., Old Sarum; C. T. Weir, to No. 25 (F.) Sqdn., Hawkinge; P. W. Bale, to R.A.F. Base, Calshot; T. L. Moseley, to R.A.F. Base, Calshot; M. D. Thunder, to R.A.F. Base, Calshot; all posted with effect 15.7.33. H. J. Kirkpatrick, to No. 26 (A.C.) Sqdn., Catterick, 20.8.33. The undermentioned Pilot Officers are posted to R.A.F. Depot, 15.8.33, on appointment to Short Service Commns.:—V. W. Glasheen, H. B. Hurley, A. C. Mills, N. G. Mulholland, K. D. Salmon, L. V. Spencer.

**Acting Pilot Officers:** R. P. H. Carew, to No. 18 (B.) Sqdn., Upper Heyford, 20.8.33. F. M. C. Corelli, to No. 57 (B.) Sqdn., Upper Heyford, 20.8.33. H. S. Darley, to No. 207 (B.) Sqdn., Bircham Newton, 20.8.33. H. L. Fry, to No. 58 (B.) Sqdn., Worthy Down, 20.8.33. A. F. Hamilton, to No. 9 (B.) Sqdn., Boscombe Down, 20.8.33. P. H. Holmes, to No. 26 (A.C.) Sqdn., Catterick, 20.8.33. E. B. King, to No. 26 (A.C.) Sqdn., Catterick, 20.8.33. H. J. F. Le Good, to No. 40 (B.) Sqdn., Abingdon, 20.8.33. I. J. McGhie, to No. 9 (B.) Sqdn., Boscombe Down, 20.8.33. B. O. Prowse, to No. 18 (B.) Sqdn., Upper Heyford, 20.8.33. F. W. Richards, to No. 111 (F.) Sqdn., Hornchurch, 20.8.33. I. A. Scott, to No. 58 (B.) Sqdn., Worthy Down, 20.8.33. A. T. H. Willis, to No. 99 (B.) Sqdn., Upper Heyford, 20.8.33. J. W. Young, to No. 9 (B.) Sqdn., Boscombe Down, 20.8.33.

*Stores Branch*

**Flight Lieutenant** F. C. C. B. Hichens, to Station H.Q., Upper Heyford, 24.8.33.

*Accountant Branch*

**Flight Lieutenant:** E. V. Humphrey, to Station H.Q., Mount Batten, 24.8.33.

*Medical Branch*

**Squadron-Leader** C. P. Barber, to Central Med. Estab., 21.8.33, for duty as Medical Officer, vice Sqdn.-Ldr. C. T. O'Neill, O.B.E.

## NAVAL APPOINTMENTS

The following appointments have been made by the Admiralty:—

**Lieut.-Com. (Flight Lt., R.A.F.).**—G. Willoughby, to York (August 15).

**Lieuts. (Flying Officers, R.A.F.).**—A. F. Black, to "Victory," for S. of N.C., Lee-on-Solent (August 15); and B. H. M. Kendall, to "Victory" for R.A.F. Base, Gosport (August 29). W. P. Lucy and N. M. Kemp, to "Glorious"; E. G. Clutton, to "Furious"; and J. C. H. Price, to "Victory" for R.A.F. Base, Gosport.

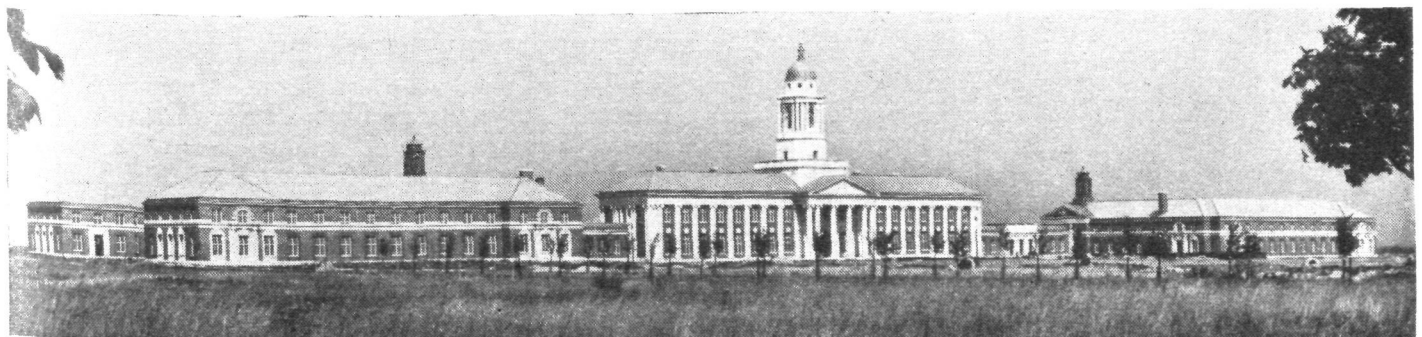
**Sub-Lieut. (Flying Officer, R.A.F.).**—G. W. R. Nicholl, to "Furious."



## The Air Force List

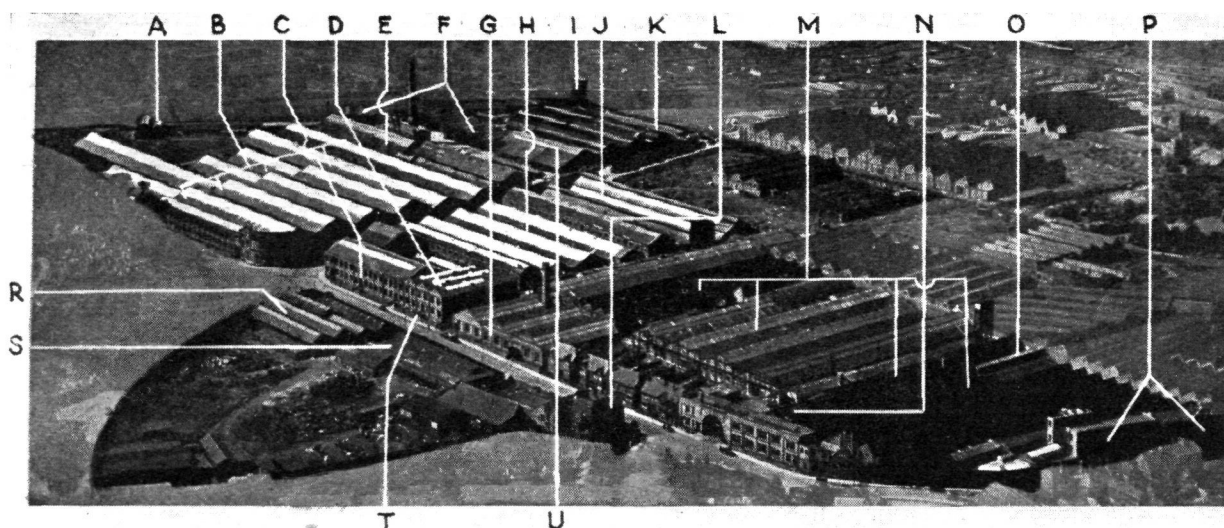
THE September issue of the Air Force List has now been published. It can be purchased (price 2s. 6d.) from H.M. Stationery Office at the following addresses:—Austral

House, Kingsway, London, W.C.2; 120, George Street, Edinburgh; 2, York Street, Manchester; 1, St. Andrew's Crescent, Cardiff; 15, Donegall Square, Belfast; or through any bookseller.



[Official Photo. Crown Copyright.]

CRANWELL: The imposing new buildings of the Royal Air Force Cadet College, Cranwell, stand out as a landmark visible from afar across the flat plains of Lincolnshire. Comparison with Sandhurst and Woolwich need no longer be feared. The architect was Mr. J. G. West, O.B.E., of H.M. Office of Works.



## BRIEFLY

THE excellent pale blue finish to the "finish" of Sir Philip Sassoon's "Gull" which Flt. Lt. Hawtrey flew in the Folkestone Trophy Race was the work of Cellon, Ltd.

THE workshops of the Shoreham Aero Club have been busy lately overhauling the Westland "Widgeon" ("Cirrus III") which has been acquired by Mr. George Miles. The ferry service from Portsmouth is bringing quite a considerable number of passengers to the aerodrome. There ought to be a big increase in this traffic as soon as the new Municipal Airport is ready. Work should start on it shortly, and when finished its natural facilities will make it one of the most convenient municipally-owned aerodromes in the country.

SUPERFLEXIT non-metallic tubing, of Italian manufacture, was used for the fuel and oil systems of all the Savoia-Marchetti flying boats which recently flew to America and back. In this country British-made Superflexit tubing is manufactured at Slough and approved by the Air Ministry.

A GOOD example of the efficiency of some of younger aviation firms was given us at Brooklands during the week-end. We had occasion to query the position of an obscure place abroad and mentioned it to Mr. "Bill" Ledlie, the chief pilot of Brooklands Airways. "Come into the office," he said, and forthwith displayed a complete set of maps for the whole world. "Now where do you want to go?" he jokingly asked. A contrast, but a welcome one to the average pilot who usually borrows a map or uses one of those beloved of all joy-riding and circus pilots—especially the British Hospitals pilots—which are to be found in the writing room of every Trust House!

AT a Court of the Coachmakers and Coach Harness Makers Company, held on Friday, the following officers were elected:—Master: Sir John Davenport Siddeley. Senior Warden: Sir Herbert Austin. Renter Warden: John Christopher Mitchell. Junior Warden: Lord Iliffe.

THE DOMINION MOTOR SPIRIT CO., LTD., write to point out that the statement made in last week's issue that Mr. K. Waller, who won the Folkestone race, was using Pratts is incorrect, and that he, as well as Mr. Lipton, were using Acme-Dominion Motor Spirit. Honour where honour is due.

"WIZARD" sparking plugs are, we hear, soon to be placed on the market. Col. Ormonde Darby is interested in the new plug, which has been tested extensively by Imperial Airways, and which, we are told, is being standardised by them on all their engines.

MR. PEARSON, the designer of the "rotary ailerons" fitted on the Glenny & Henderson "Gadfly" some years ago, has been working away quietly and is, in conjunction with Mr. Pickering and other associates, producing an experimental machine in which these ailerons will be used not only for lateral but also for directional control.

"ESSOLUBE," the new hydrogenated motor oil introduced by the Anglo-American Oil Company, was used on the cars which gained first, second and third places in the Ulster T.T. Race.

AN AERIAL VIEW OF THE ARMSTRONG-SIDDELEY WORKS AT COVENTRY: The letters refer to the various departments. "A" Research, "B" Body Building, "C" Canteen and Ballroom, "D" Car and Aero Engine Drawing Office, "E" Saw Mill, "F" Aero Engine Test House, "G" Service Dépôt, "H" Car and Aero Engine Fitting Shop, "I" Artesian Well, "J" Car Despatch, "K" Finished Test, "L" Social Club, "M" Machine Shops, "N" Raw Material Stores and Inspection, "O" Chemical and Physical Laboratory, "P" Main Entrance and General Office, "R" Frame Shop, "S" Cycle Shed, "T" Service Stores, "U" Export Packing Shop.

MR. GEORGE H. DOWTY, the designer of the now famous shock-absorbing legs, writes to inform us that his firm, Aircraft Components, Ltd., has now been approved by the Air Ministry. The approval is for design. Unless we are very much mistaken, this is the first time a firm which does not produce complete aircraft or engines has received design approval.

K.L.G. sparking plugs were used on the cars which gained first, second, third and fourth places in the Ulster T.T. Race.

## PUBLICATIONS RECEIVED

*Proceedings of the Founders' Meeting of the Institute of the Aeronautical Sciences, Inc.* Institute of Aeronautical Sciences, Inc., 251, West 101st Street, New York City, U.S.A. Price \$1.00.

*Knight of Germany: Oswald Boelcke, German Ace.* By Prof. J. Werner. Translated by C. W. Sykes. London: John Hamilton, Ltd. Price 8s. 6d.

*Naval Air Pilot, Mexico.* Hydrographic Office Publication No. 193. U.S. Hydrographic Office, Navy Department, Washington, D.C., U.S.A. Price 60 cents.

*Motor Cycling Manual.* 9th edition. London: Temple Press, Ltd. Price 2s. net.

*Model Aeroplanes Simply Explained.* By M. R. Knight. London: Percival Marshall and Co., Ltd. Price 1s. net.

*The Stresses in Aeroplane Structures.* By H. B. Howard. London: Sir Isaac Pitman and Sons, Ltd. Price 20s. net.

## NEW COMPANIES REGISTERED

AIR TRANSPORT & SALES, LTD., Hayling Aerodrome, North Hayling, Hants. Capital £100 in £1 shares. Under agreement with Maidstone Airport, Ltd., to establish, maintain and work aerial communication by aeroplanes, seaplanes, flying boats, and other means of aerial conveyance; to carry on the business of carriers of passengers, goods and mails, &c. Directors: George M. Harris, Hayling Aerodrome, North Hayling, Hants; aircraft operator (managing director); Dennis I. Peacock, Hayling Aerodrome, North Hayling, pilot and instructor.

## AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. (The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

### APPLIED FOR IN 1932

Published September 7, 1933

- 10,380. C. H. A. F. L. ROSS. Screw-propeller blades. (396,865.)
- 15,210. BENDIX AVIATION CORPORATION. Screw propellers. (396,900.)
- 16,196. FAIRLEY AVIATION CO., LTD., and A. G. FORSYTH. Two-speed gear for i.c. engine superchargers. (396,908.)
- 28,492. DORNIER METALLBAUTEN GES. and C. DORNIER. Undercarriages or landing gear for aircraft. (396,956.)
- 32,891. O. REDER. Advertising on aeroplanes. (396,981.)

### APPLIED FOR IN 1933

Published September 7, 1933

- 400. M. GROSSU. Machine-gun mounting for aeroplanes. (396,754.)
- 827. H. PAULIPP. Endless-track propellers for aircraft. (396,027.)



# Personals

## PREPAID

(18 words or less 3/6, then 2d. per word).

### To Be Married.

**SHERLOCK : ROBERTSON.**—The engagement is announced of FLIGHT-LIEUTENANT DEREK J. SHERLOCK, R.A.F., elder son of the late Mr. James Sherlock, and of Mrs. Sherlock, of Kington-on-Thames, Surrey, and Miss ELIZABETH ROBERTSON, eldest daughter of Mr. and Mrs. Robertson, of Cotton, Dunfermline, Fifeshire.

**SCOTT : WATKINS.**—The engagement is announced between Mr. JAMES MAURICE SCOTT and Miss PAMELA MARY WATKINS, daughter of Col. H. G. Watkins and of the late Mrs. H. G. Watkins.

### Death.

**EVANS.**—A. H. C. EVANS (John), only son of Mrs. Madeline Evans, Rustington, late R.A.F. (600 City of London Bombing Squadron) on August 27, 1933, at Harrogate, aged 29.

## MISCELLANEOUS ADVERTISEMENTS.

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## PATENTS

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**A. P. THURSTON & CO.,** Chartered Patent Agents, 329, High Holborn, W.C.1. Tel.: Hol. 1117.

**F. J. CLEVELAND & CO.,** Chartered Patent Agents, 29, Southampton Buildings, London, W.C.2. Telephone: Holborn 5875-6.

**KING'S PATENT AGENCY, LTD.,** 146A, Queen Victoria Street, E.C.4.—"Advice Handbook" and consultations free. 47 years' references. 'Phone: Central 0682.

**A. MATHISEN, B.Sc.** Aeronautical Invention Patents, Working Drawings, Exploitation Advice. First Avenue House, High Holborn, W.C.1.

**GEE & CO.,** 51, Chancery Lane, London, W.C.2. Ask for Book on "Patents, Trade Marks," etc.

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### FIVE FIRST PLACES.

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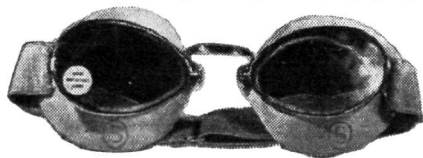
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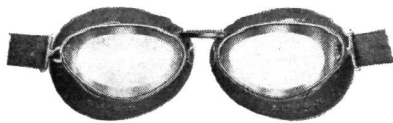
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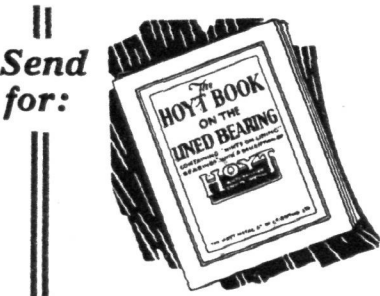
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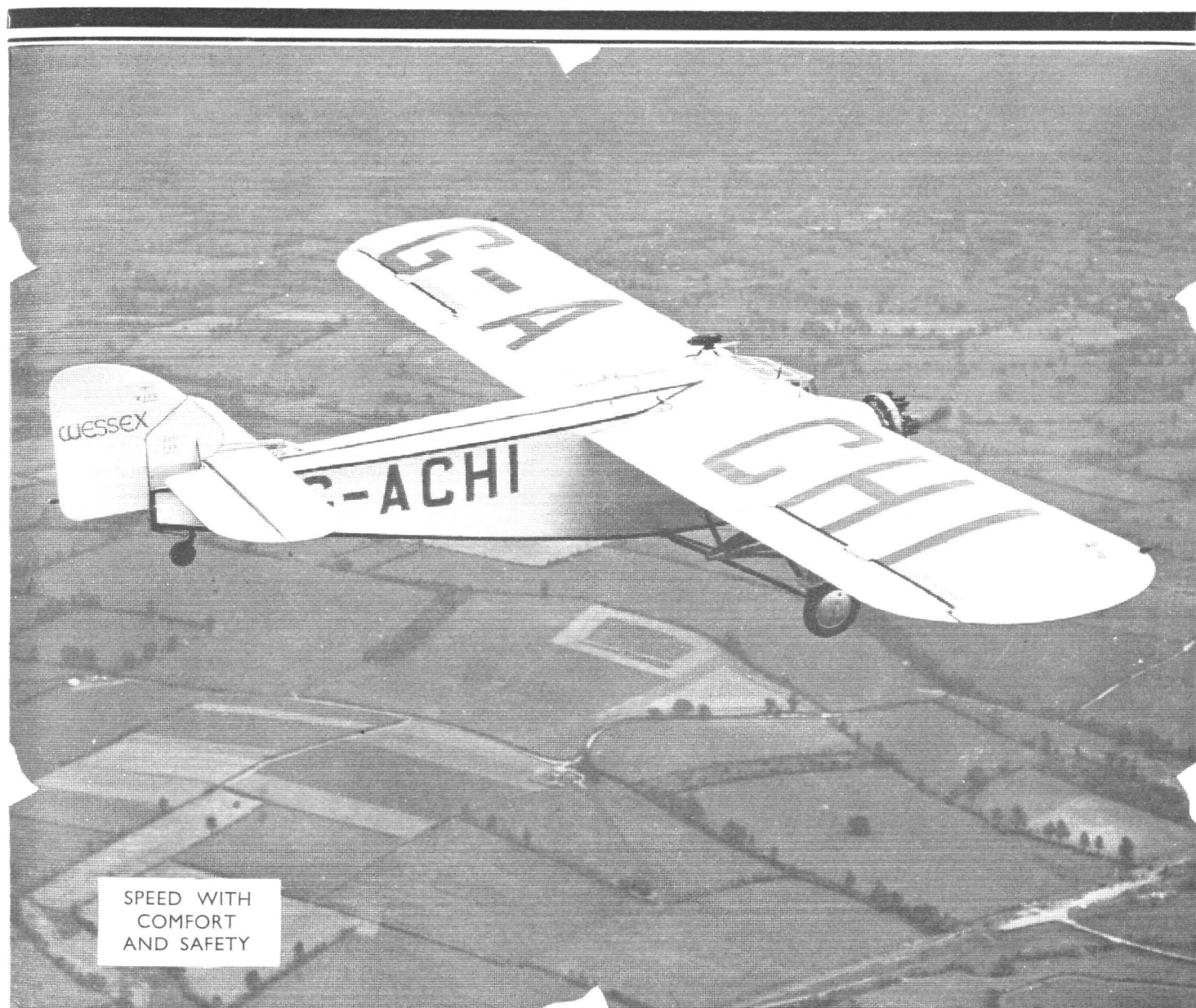
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